

properly understood or compensated for where there is sufficient reason to do so. I note there was no ecological information submitted with the application, and we have no data for the site, so unless local knowledge has suggested or can demonstrate otherwise, there is little more we can advise on this point.

4. I am not sure whether the bat work refers to proposals that have already been permitted or subject to a future application. In any event I can confirm that- in principle - **I consider no further bat surveys are required**. Surveys have already been undertaken and the bat roosting potential was considered negligible to low. This is, of course, on the assumption that survey effort etc and evidence has been / will be provided, as there are no surveys submitted with this e-mail. However, a Watching Brief for the removal of a number of possibly suitable features as a precaution is more than sufficient to ensure bats will have been adequately dealt with in respect of the planning process if the existing potential has been shown to be very low. In any event if bats are discovered works should stop and appropriate advice obtained, which will be available from the ecologist present.

5. Incidentally if planning permission has already been granted for building demolition, no further surveys can be required via the planning process (unless if these are expected by Condition), as the process will have run its course. The legal protection afforded bats as UK and European protected Species of course still applies and will need appropriate surveys and guidance to be legally compliant, if necessary.

I trust this information is of assistance,

Regards,

Martin Hicks MCIEEM
Ecology Advisor
Hertfordshire Ecology
Environmental Resource Planning
Postal Point CHN109
Hertfordshire County Council, County Hall, Pegs Lane, Hertford, SG13 8DN

Tel: 01992 556158 Comnet / Internal: 26158

Email: martin.hicks@hertfordshire.gov.uk

Please note that the LRC component of HBRC has transferred to the Herts & Middlesex Wildlife Trust. We will be removing biorec.info@hertsc.gov.uk in due course.

The advisory service is still hosted by HCC and is now known as Hertfordshire Ecology. Our email address has changed to ecology@hertfordshire.gov.uk

From: **Richard Jennings** <richard@bradleymurphydesign.co.uk>

Date: Fri, May 16, 2014 at 10:56 AM

Subject: Re: FW: Land at 3 Bridge Road (former Shredded Wheat Factory) - Ecology

To: Richard Aston <r.aston@welhat.gov.uk>

Cc: David Lane <david@dlatownplanning.co.uk>, Laura Bradley

<Laura@bradleymurphydesign.co.uk>

Dear Richard

Many thanks for sending through Martin Hicks response. I am in agreement with Martin on all points discussed.

In regard to invertebrate surveys I did not think the site warranted further survey work given the habitats present, but I assumed records of rare or notable invertebrates had previously been recorded at the site. It appears that White Admiral has been recorded within the wider industrial area, but as Martin highlights, this is a woodland species and hence highly unlikely to be reliant upon the site, (if indeed still present). Therefore, I am in agreement with Martin that detailed surveys for invertebrates are not warranted at the site.

It appears that Martin is satisfied with my approach regarding reptile surveys (i.e. 7 surveys, followed by suitable mitigation /compensation measures to be agreed with the LPA) and is satisfied that sufficient survey effort has been undertaken within the wider development site regarding bats, subject to a detailed record of this survey work being produced and subject to precautionary safeguards to be carried out for bats under a Watching Brief during demolition works.

I would be grateful if you could confirm that you are in agreement with Martin Hicks 8th May 2014 recommendations.

Many thanks

Richard

APPENDIX 4

Copy of Proposed Mitigation Strategy Regarding Peregrine Falcon

Peregrine Falcons: A Mitigation Strategy

Colin Shawyer MUniv AUH CBiol FSB FCIEEM

September 2014

1 BACKGROUND

1.1 Peregrine Falcons in Britain

Virtual extinction of the peregrine falcon *Falco peregrinus* as a breeding species caused by contamination of their food chain by organochlorine pesticides, occurred in Britain and many other countries of the world during the 1950s and 1960s. Recovery in the population of this bird following increased legal protection and the withdrawal of these agricultural chemicals is now legendary. Not surprisingly the peregrine's conservation success story and its reputation as the fastest animal on earth, continues to fire high levels of public admiration and appreciation for this bird.

1.2 Adaptation to Man-made Structures

By the turn of the current century peregrine numbers had increased above those of the pre-pesticide days of the mid 1900s at a time when breeding was largely confined to coastal cliffs. By the early 1980s these birds began to nest in inland quarries and by 1991 seven pairs of peregrines were breeding on built structures and the occupation of towns and cities had begun. Today the number of peregrines nesting on man-made structures has increased to an estimated 200 pairs (Dixon pers com). A significant proportion of these largely inland nest sites are now found in rural areas on pylons and masts whilst in urban areas residential, industrial and ecclesiastical buildings have become the preferred choice.

1.3 Nest Requirements

The main requirement for nesting is a site offering high vantage and it is often the tallest most dominant building in a townscape which is selected, height offering security from ground predators and human interference. In Britain nest heights are commonly in the range of 30-50 m above ground level but on tall masts and chimneys these can sometimes exceed 150 m. Like natural nests on high cliff faces, built structures must also offer a wide ledge or cavity containing a thin layer of soil or similar substrate where a shallow nest scrape can be made and in which the eggs can be laid.

1.4 Peregrine Mitigation: Battersea a Case Study

In 2000 the first pair of peregrines moved into London on the derelict building of Battersea Power Station. In 2004 proposed development works aimed at restoring this iconic landmark threatened to displace this pair of birds. By this time Battersea Power Station had become recognised as the most important landmark for peregrines in London and was attracting wide public interest, including that of the developers, English Nature (now Natural England) and the local planning authority. Concerns for these birds and the desire to maintain the

presence of breeding peregrines during and after the redevelopment of Battersea Power Station, was shared by all.

Raptor biologists, Colin Shawyer and Nick Dixon of the Wildlife Conservation Partnership (WCP) were commissioned to draw up a mitigation strategy which would retain breeding peregrines on the site throughout the period of development and to draw up architectural plans which would offer permanent nesting quarters for these birds within the new building design.

The mitigation plan needed to take account of the peregrine's protected status on Schedule 1 of the Wildlife and Countryside Act 1981 as amended, which makes it unlawful to intentionally or recklessly disturb peregrines and their young whilst they are occupying an active nest and remain dependent on it.

Research during the early years of occupancy, between 2001 and 2004, had shown that the resident birds were breeding on the edge of a cavity at high elevation on the north face of the Power Station. It was necessary, therefore, to find a way which would encourage them to breed within the site. But this needed to occur at a sufficient distance from the building itself to prevent disturbance during the period of demolition and construction works and thereby to avoid contravention of wildlife law.

Mitigation required the installation of an artificial nest on a structure similar in height and direction to the natural nest ledge which was currently being used by the resident pair of peregrines. In 2004 a 'nestbox' was incorporated on a rest platform within the top 8 m section of a tower crane body which was itself installed on a concrete plinth and erected to a height of 40 m, 100 m from the north facing wall of Battersea. At the same time it was recommended by WCP that efforts should be made to prevent peregrines from any future nesting on the numerous ledges and cavities of the building and divert them onto the newly erected tower; thereby reducing potential constraint to future construction works.



In the event changes in ownership of Battersea Power Station following erection of the tower in 2004, has meant that major construction works have not yet taken place on the site. Nevertheless, and in spite of the failure of previous owners to undertake the exclusion methods which were recommended, peregrines have occupied the tower throughout this time, breeding successfully in some of these years.

In early 2014 the old tower, which was showing signs of deterioration was removed from the site and a new tower installed on the original plinth, complete with a refurbished nestbox and nest camera.

2 PEREGRINES IN WELWYN GARDEN CITY

2.1 Introduction

WGC is the latest town or city in the UK to accommodate breeding peregrine falcons. They first set up residence in 2013 and in 2014 became one of only two sites in the county of Hertfordshire to attract a breeding pair of these birds (Herts Bird Club : News. 28th May 2014).

Not surprisingly these birds were attracted to one of the tallest buildings in the city, a disused industrial complex containing a block of concrete grain silos previously owned by Shredded Wheat where a high concrete walkway offered a nest ledge on which wind-blown substrate has been deposited and sparse vegetation has grown.

South facing silo stack and walkway above



North facing silo stack and walkway showing position of nest site established in 2014



Although there is good evidence that the pair of peregrines at this site attempted to breed in 2014 on a high section of walkway there was no evidence that young successfully fledged from the site. Nest failure at newly occupied sites is not uncommon because it is usually immature birds that take up residence.

2.2 Current Status of the Site

The site is in the early stage of design, planning and redevelopment. Clearance of industrial buildings took place on a large area of land in the southern section of the site alongside Broadwater Road (A1000) a number of years ago. Since then patches of scrub have developed on the hard-standing which remained.



Remedial land-clearance works are now about to be undertaken in the northern part of the site. This is in preparation for demolition of part of the main factory, silo complex and brick and concrete buildings adjacent to Hyde Way, which bisects the landholding east to west.

Future clearance, demolition and construction works to the site, not unlike that of Battersea Power Station, face potential constraints from the presence of breeding peregrines. The owners recognise the need to mitigate the potential impact of the development on peregrines and are keen to retain their presence on the site during and after development.

2.3 Short-term mitigation

It is recommended that actions similar to those undertaken at Battersea in 2004 are now considered for the WGC site.

Mitigation works should be initiated as soon as possible and ideally before commencement of the next breeding season in February 2015. This timing will be essential but only if demolition or similar works are programmed to take place in proximity to the processing plant and silo stack between February and August of 2015.

The mitigation works necessary to protect peregrines and avoid ecological constraint during the development phase would require:

- A temporary mitigation site (TMS) to be located on the cleared area of land to the south of Hyde Way and installation of a nest-tray/nestbox/artificial substrate (1996. Dewar, S.M. and Shawyer, C.R. *Boxes, Baskets and Platforms; Artificial Nest Sites for Owls and Other Birds of Prey*, Hawk and Owl Trust, London) and erection of a high tower on a pre-installed concrete plinth to be positioned close to the centre of the TMS.



Mitigation site (TMS)

ACTION. Procurement of the artificial nests and tower, construction of the tower support plinth and its positioning, to be discussed and agreed on site with WCP. (Details of the proposed schedule for demolition of the brick and concrete buildings which lie on the northern edge of the TMS will be required to inform the latter).

PURPOSE. To encourage future undisturbed nesting away from the proposed development of the silo stack and production-plant complex.



Brick building block adjacent to Broadwater Road, A1000

- Clearance of accumulated vegetation and loose substrate from the walkways above the silo stack and from sections of the curved roof edges, high window ledges and open ducts.



ACTION. Close inspection of the building from the walkway will be required by WCP to fully inform these clearance works.

PURPOSE. To discourage future breeding on the building and encourage peregrines onto the TMS.

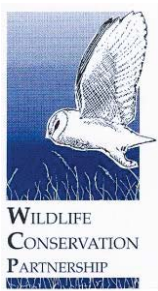
2.4 Long-term mitigation

This will require:

- Close involvement in the architectural design for the silo stack and associated building complex. Ideally long-term nesting provision needs to be incorporated into the structure of the building. This not only requires an optimal design specification but its positioning needs to consider factors such as, access to the nest and the intended use and maintenance of the building (1995, Dixon, N. and Shawyer, C.R. *Peregrine Falcons: Provision of artificial nest sites on built structures*).

ACTION. WCP to liaise closely with the building architects.

PURPOSE. To encourage future breeding.



WILDLIFE CONSERVATION PARTNERSHIP

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APPENDIX 5

Enhancements for Bats



1FF BAT BOX

The rectangular shape makes the 1FF suitable for attaching to the sides of buildings or in sites such as bridges, though it may also be used on trees. It has a narrow crevice-like internal space to attract Pipistrelle and Noctule bats.

Material: Woodcrete (75% wood sawdust, concrete and clay mixture)
 Width: 27cm
 Height: 43cm
 Weight: 7.3kg

2F BAT BOX

A standard bat box, attractive to the smaller British bat species. Simple design with a narrow entrance slit on the front.

Material: Woodcrete
 Diameter: 16cm
 Height: 33cm
 Weight: 4kg



EXAMPLES OF BAT BOXES



248 × 256 - Bat Homes Built to Match Brick and Mortar designed by Weinberger



Enclosed Bat Unit - Ibstock



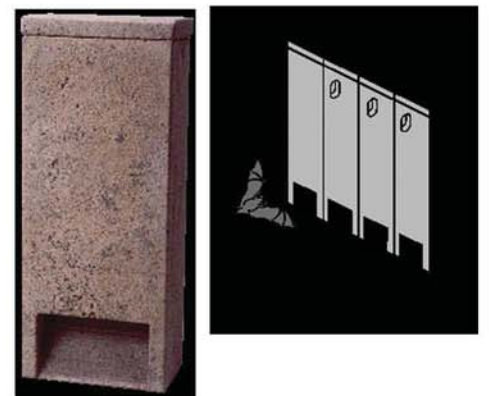
360 × 186 - 0603 - Norfolk Bat Brick



Free access bat brick box- Ibstock Brick Limited



Brick Box No 27 - Schwegler



Bat tube 2FR - Schwegler

EXAMPLES OF BAT BRICKS/ TUBES



Aldershaw three-piece vent tile set



Bat access tile - Dreadnought Tiles



Klober uni-plain tile vent



Tudor bat tile- supplied by Tudor Roof Tiles Company Limited

EXAMPLES OF BAT TILES

APPENDIX 6

Enhancements for Hedgehogs



SCHWEGLER HEDGEHOG DOME

Hedgehogs are a UK BAP species.

They usually construct nesting places in hollow tree stumps, piles of wood, dense vegetation and piles of leaves, all of which are becoming harder to find.

They will readily occupy Hedgehog Domes, which provides year round accommodation, including hibernation quarters.

Material: SCHWEGLER wood-concrete. Brown protective coating for a balanced temperature

Siting: Choose somewhere protected from wind and rain. Try and avoid placing the Dome where the animals have to cross a lawn because these are mainly damp at night.

Nesting material: Ideally fill with hay (supplied with the Dome) but alternatively use dry leaves and straw, as well as cut up newspaper and wood shavings.

Dimensions:

Interior: Ø 44 cm Height: 28 cm Entrance: 11 x 12 cm

Exterior: ca. Ø 50 cm



EXAMPLE OF A HEDGEHOG DOME

APPENDIX 7

Enhancements for Birds



1SP SPARROW TERRACE

House sparrows are gregarious and prefer to nest close to each other, so this woodcrete box provides room for three families under one roof.

For siting on buildings of all kinds at a height of at least 2m (eg. under eaves).

SCHWEGLER NO 3S STARLING BOX

The Schwegler 3S Starling nest box has become established as the standard design both in the UK and Europe. Not only will the 3S nest box attract starlings, it is just as likely to provide overnight shelter for great spotted, middle spotted and lesser spotted woodpeckers. When there are fewer starlings, other species such as pied flycatchers and nuthatches may breed in these boxes. Because of the relatively large entrance hole (45mm diameter), the interior is well lit which encourages occupation. The large diameter nesting chamber (140mm) also helps to encourage occupation.



1B BIRD BOX

This is the most popular box for garden birds and appeals to a wide range of species. The box can be hung from a branch or nailed to the trunk of a tree with 'tree-friendly' aluminium nail.

Available in four colours and three entrance size holes; 26mm for small tits, 32mm standard size oval for redstarts.

2H OPEN FRONTED NEST BOX

This box is attractive to Robins, Pied Wagtails, Grey Wagtail, Spotted Flycatcher, Wrens and Black Redstarts.

They are best sited on the walls of buildings with the entrance on one side.

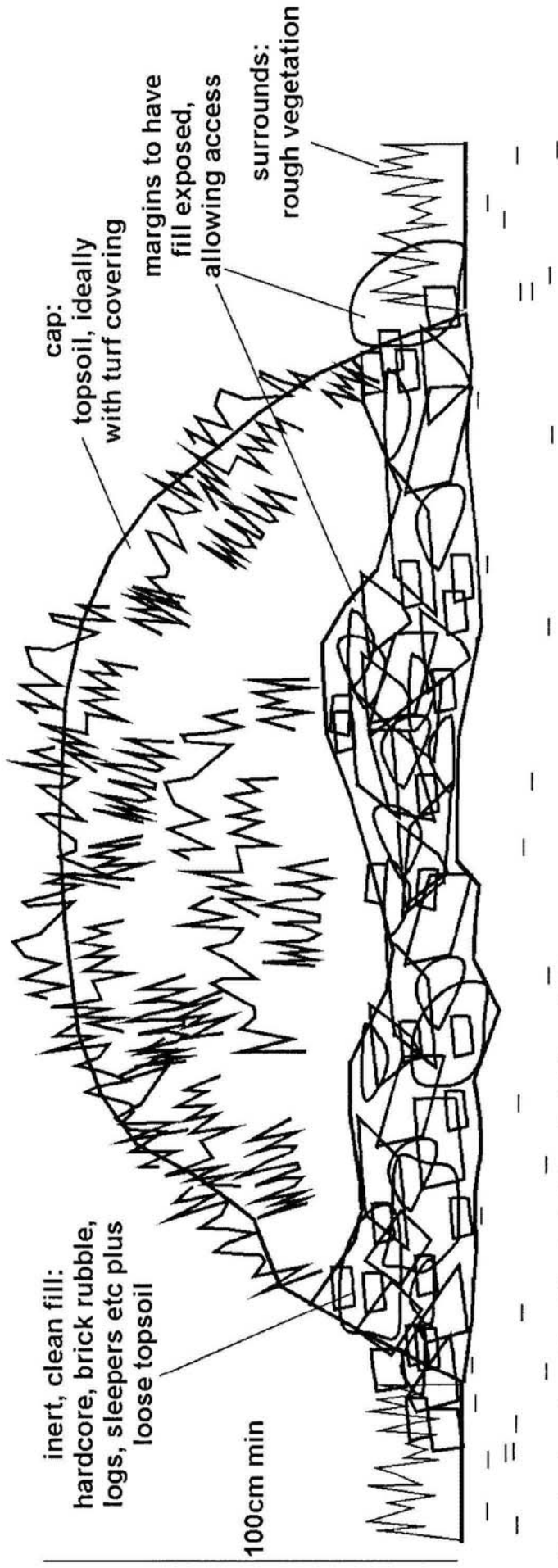


EXAMPLES OF BIRD BOXES

APPENDIX 8

Enhancements for Reptiles

200cm min



Extract from Great Crested Newt Mitigation Guidelines (English Nature, 2001)

EXAMPLE OF REPTILE/ AMPHIBIAN HIBERNACULA

APPENDIX 9

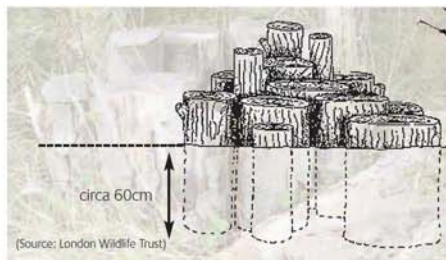
Enhancements for Invertebrates

STAG BEETLE

Why is it important?: The stag beetle is a globally threatened species, for which the UK supports a significant number. The numbers of stag beetles have declined since the 1940s; their UK distribution has contracted from a large swathe of southern England and Wales. Recent surveys suggest that they are now more restricted to the south-east, with concentrations along the Thames Valley, in north-east Essex/Suffolk, and the New Forest.

Management for the beetle:

- Retain as much dead wood - logs and stumps - as possible on site - the larger the better (which helps prevent burning, vandalism or removal). If possible some of this needs to be in the shade to avoid desiccation.
- Leave windblown trees in situ, except where they pose a safety problem.
- Make sure that most of the dead wood is lying on or close to the ground.
- Ensure that a buffer zone is managed around large dead wood so that the soils and vegetation are protected as much as possible from disturbance. Ideally this should not be cut between May and September.
- Avoid stump-grinding tree stumps wherever possible.



STAG BEETLE LOGGERY

The stag beetle requires dead wood to complete its lifecycle. The eggs are laid underground by logs, or stumps of dead trees, and the larva (or grub) will spend up to seven years inside slowly growing in size. If there is no dead wood on site, seek to provide this by building 'loggeries' or breeding boxes from preferably natural wood (do not use softwoods (conifers) or treated timber).

Dimensions:

Large logs (10-50cm diameter) of hardwood (e.g. oak, beech, sycamore, ash) with bark still attached sunk c60cm into the ground, in partially shaded areas.



EXAMPLE OF A STAG BEETLE LOGGERY



WOODEN INSECT HOUSE

A good general insect habitat for beneficial insects in summer and, later in the year, overwintering ladybirds and lacewings. Site in a sheltered place near pollen/ nectar plants or by pond.

Durable and strong construction in Acacia/ Oak/ Larch with no maintenance necessary.

Dimensions: 22x13.5x13.5cm

BUG BOX

A dual insect habitat which can be hung from trees or man made structures near ponds or scented plants to provide an overwintering habitat for ladybirds and a summer home for solitary bees.

Dimensions: 14x20x9cm



WOODCRETE INSECT NEST

An insect nest made from long-lasting, insulating, woodcrete, with holes of different sizes providing homes for a variety of beneficial insects such as bees and solitary wasps.

Dimensions: 14x8x26cm

Weight: 3.65kg

EXAMPLES OF INSECT BOXES



APPENDIX 12.2 – PHASE 1 HABITAT VERIFICATION

**PHASE 1 HABITAT VERIFICATION
BROADWATER, WELWYN GARDEN CITY, AL8 6UN**

SEPTEMBER 2017

BMD.17.023.RP.901

DOCUMENT HISTORY

Project Number: 17.023		Document Reference: BMD.17.023.RP.901			
Revision	Purpose of Issue	Originated	Reviewed	Approved	Date
-	PLANNING	JT	HM	RW	26/09/2017

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EXECUTIVE SUMMARY

This is a brief summary of the findings and recommendations of the 2017 walkover verification survey carried out at Broadwater Road, Welwyn Garden City, Hertfordshire (centred on OS Grid reference: TL 24172 12863) on the 1st September 2017.

Bradley Murphy Design were commissioned to undertake a verification survey in relation to the current development proposals.

The work comprised a desk study review and a walkover survey to verify and map habitats occurring on the site and indications of, or the potential for, protected and notable species.

Proposed works include demolition, site clearance and implementation of a mixed-use development, with associated access, car-parking provision and landscape planting.

The 2015 conclusions in relation to desk study data are considered to remain valid. Since the site lies within an Impact Risk Zone for two SSSIs, it is highly likely that the LPA will need to consult with Natural England as part of the planning process.

There were some changes to the habitats present on site since the 2013/14 surveys. These changes predominantly include a shift in the grassland habitats (which have been unmanaged) and to the habitats in the north-west (resulting from the construction of a new access road along the north-west boundary).

There were no significant changes to the results of the 2015 assessment in relation to species.

However, since the 2014 reptile translocation work, and the construction of the access road, the habitat where the majority of slow-worm were captured has changed significantly:

- The access road now separates the railway corridor from the former north-west grassland / ruderal / scrub mosaic.
- The north-west area now only offers sub-optimal habitat for reptiles.

This report is considered to be valid for 12 months from the date of issue.

1. INTRODUCTION

- 1.1.1 The purpose of this document is to provide an update of the ecological assessments made at Broadwater Road, Welwyn Garden City, Hertfordshire in 2013/14 (Bradley Murphy Design, 2015) in relation to developing the land for a mixed-use development, with associated access, car-parking provision and landscape planting. The site is located on land at the former Shredded Wheat Factory, in Hertfordshire (National Grid Reference: TL 24172 12863). It is understood that this updated baseline is required to support the submission of a new single detailed planning application.
- 1.1.2 The site has planning approval under two applications:

N6/2015/0294/PP: Former Shredded Wheat Factory, Bridge Road, Welwyn Garden City, AL8 6UN.

Outline planning permission for part demolition, repair, restoration, extension and conversion of the former Shredded Wheat Factory complex to include demolition of all buildings and structures except the original 1920's silos, production hall, grain store and boiler house. Refurbishment and change of use of the retained listed buildings to provide 2 class C3 residential units, a class C1 boutique/budget hotel, class B1(a) offices, a class A4 pub/bar, a class D1 crèche and a class D2 Gym/dance/exercise studio. Erection of up to 850 class C3 Dwellings to potentially include up to 80 class C2 (and/or C3 Assisted living units), class A1 retail, class A3/A4 restaurants/café's/bars/pubs, class D1 community use and healthcare and class D2 gym/dance/exercise studio floorspace. Provision of external space for leisure and recreation to include a linear park, external games/play area, allotments and a skate park. Creation of internal estate roads, paths, vehicle and cycle parking. Associated highway works comprising the widening of footways and the provision of cycle ways to Broadwater Road and Bridge Road, works to Hydeway, junction remodelling works and the erection of a new footbridge from Bridge Road. Phase 1 (blocks 2,3,4,5,6 & 7 on land to the north and West of Hydeway and northern part of block 1) – includes appearance, means of access, landscaping, layout and scale in addition to all associated highway works. Phase 2 (blocks 8,9,10,11 & 12 and southern part of block 1 on land to the south of Hydeway) – includes means of access with layout, scale, appearance and landscaping reserved.

N6/2015/0293/LB: former Shredded Wheat Factory, Bridge Road, Welwyn Garden City, AL8 6UN

Part demolition, repair, restoration, extension and conversion of the former Shredded Wheat Factory complex to include demolition of all buildings and structures except the original 1920's silos, production hall, grain store and boiler house. Refurbishment and change of use of the retained listed buildings to provide 2 class C3 residential units, a class C1 boutique/budget hotel, class B1(a) offices, A class A4 pub/bar, a class D1 crèche and a class D2 gym/dance/exercise studio.

-
- 1.1.3 Previous surveys undertaken by Bradley Murphy Design in 2013 – 2014 (Bradley Murphy Design, 2015) are as follows:
- Preliminary Ecological Survey – October 2013
 - Badger Survey - October 2013 and update October 2014
 - Bat Surveys (Trees and Buildings) - October and November 2013
 - Reptile Survey – April to June 2014
 - Botanical Survey – June and August 2014
 - Reptile Translocation – August – October 2014
- 1.1.4 Since the 2013/14 surveys an access road in the north-west of the site has been constructed and associated vegetation management undertaken in the north-west including strimming and removal of some areas of scrub. This was completed under planning permission reference number N6/2013/2305/MA. Associated mitigation measures regarding reptiles have been completed in order to address Condition 4 of this planning permission.
- 1.1.5 The update assessment involved an updated desk study for the site and a walk-over survey on the 1st September 2017. The survey results and updated desk study have been reviewed in conjunction with the 2015 report. The desk study used a 2 km search radius with data obtained from the online database (*MAGIC*) and records from the Hertfordshire Biological Record Centre (HBRC) (received on 4th September 2017).

2. DESK STUDY

- 2.1.1 This section provides a review and update of desk study data pertaining to the site and surrounding area.
- 2.1.2 Aerial Photography and OS Maps: No change.
- 2.1.3 Statutory protected sites (as shown on *MAG/C* database): Sherrardspark Wood LNR and SSSI and The Commons LNR.
- 2.1.4 The site lies within the outer Impact Risk Zone for Sherrardspark Wood (900 m north-west), Tewinbury SSSI (2 km north-east) and Wormley-Hoddesdonpark Woods SAC (9.6 km south-east). In brief, potential impacts relate to the following:
- Infrastructure - Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.
 - Minerals, Oil & Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.
 - Air Pollution - Any industrial/agricultural development that could cause AIR POLLUTION (including: industrial processes, pig & poultry units, slurry lagoons > 200m² & manure stores > 250t).
 - Combustion - General combustion processes >20MW energy input. Including: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.
 - Waste - Landfill. Including: inert landfill, non-hazardous landfill, hazardous landfill.
 - Composting - Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Including: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.
 - Discharges - Any discharge of water or liquid waste of more than 5m³/day to ground (i.e. to seep away) or to surface water, such as a beck or stream (NB This does not include discharges to mains sewer which are unlikely to pose a risk at this location).
 - Water Supply - Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m² or more.
- 2.1.5 Non-statutory protected sites: No change.
- 2.1.6 Biodiversity Action Plans: No change.

- 2.1.7** Protected and notable species: Since 2013 when the last desk study was undertaken there have been some additional records for protected species within 2 km of the site. An updated summary of protected and notable species is provided in Table 3.1. It is worth noting that the majority of the updated bird records have come from two sites, one of which is within an industrial area 700m east of the site, and the other an urbanised area 1700m east.

Table 3.1 Protected and notable species records within 2 km of site and recorded since 2013

Species	Level of protection ¹	Summary of records		
		No. records	Nearest	Most recent
Birds				
Common crossbill	UK	1	1250 m NW 2015	1250 m NW 2015
Curlew	S41	1	700 m E 2014	700 m E 2014
Firecrest	UK	1	1700 m E 2015	1700 m E 2015
Green sandpiper	UK	1	700 m E 2014	700 m E 2014
Hawfinch	S41	1	1700 m E 2015	1700 m E 2015
Hen harrier	UK, S41	2	700 m E 2015	700 m E 2015
House sparrow	S41	2	700 m E 2015	700 m E 2015
Harrier sp.	UK	1	1700 m E 2015	1700 m E 2015
Lapwing	S41	1	1700 m E 2015	1700 m E 2015
Red kite	UK	1	825 m NW 2015	825 m NW 2015
Skylark	S41	1	1700 m E 2015	1700 m E 2015
Spotted flycatcher	S41	1	1700 m E 2015	1700 m E 2015
Tree sparrow	S41	1	700 m E 2015	700 m E 2015
Mammals				
Hedgehog	S41	7	330 m SE 2014	1400 m W 2015

Notes: E = European. UK = UK. S41 = Species of Principal Ecological Importance under Section 41 (S41) of the 2006 Natural Environment and Rural Communities (NERC) Act

- 2.1.8** The 2015 conclusions in relation to the desk study data are considered to remain valid.

3. EXTENDED PHASE 1 HABITAT SURVEY

3.1 Introduction

- 3.1.1 A walk-over Phase 1 Habitat Survey was conducted on 1st September 2017 to check for any significant changes in terms of habitats since the last surveys in 2013/14. The survey focused on the works footprint and immediate area. The survey was completed by Jodie Twose MSc GradCIEEM. Access on the day was restricted to areas north of building two (the former Polycell building). It was not possible to access areas south of building two, although it was possible to see much of this area through the fence. Restrictions to access have not had any implications on the overall conclusions of the survey.

3.2 Habitats

- 3.2.1 There were some changes to the habitats present on site since the 2013/14 surveys. These changes predominantly include a shift in the grassland habitats (which have been unmanaged) and to the habitats in the north-west (resulting from the construction of the new access road), as illustrated on the plan in Appendix A. The variations to the 2015 report have been discussed below. Unless otherwise stated the comments in the 2015 report remain valid and reflect the current condition of the site.

Buildings

- 3.2.2 The buildings as assessed in 2013/14 are still on site and their condition remains as described. The brickwork of building B1a (former Shredded Wheat building complex) was described as concrete and felt-lining and in a good state of repair.
- 3.2.3 The walls of building B1b (factory structure - former Shredded Wheat building complex) were described as being in a reasonable state of repair, whilst the roof was intact, but is in a poor state of repair.
- 3.2.4 The external condition (concrete and render) of the silos of building B1c (grain silos - former Shredded Wheat building complex) were described as in a good state of repair. The large single-storey structure across the top of the silos were previously described as containing a large number of windows along the northern and southern elevations, which were in place and closed at the time of survey.
- 3.2.5 Building B2 (former Polycell factory building) was described as supporting a flat, felt-lined roof, which was under repair in 2013. The external brickwork was in a reasonable state of repair, however some of the bricks around sections of the pipe-work were water damaged and a number of the window lintels were crumbling. Some of the windows in the single-storey section of B2 were smashed during previous surveys and others had been in-filled with concrete. The multi-storeyed sections of B2 were described as missing ceilings tiles which had exposed the concrete ceilings above.

- 3.2.6 Internal inspections were not undertaken as part of the 2017 update; however, the internal condition is not anticipated to have changed significantly. Externally a greater extent of vegetation growth, particularly buddleia, is dominating building B1 and it would appear that the buildings are now in a greater state of disrepair than previously described. The condition of building B2 was in a similar condition as previously described, although the single-storey section of the building did not appear to be in use anymore.

Hardstanding

- 3.2.7 Hardstanding continues to dominate the habitat on site. The largest area situated within the southern section of the site could not be accessed during the 2017 verification survey, however, it was possible to see this area from a distance and no significant changes were apparent.
- 3.2.8 The second largest area of hardstanding is situated immediately to the west of the former Shredded Wheat building complex and is a former carpark. The eastern boundary of this hardstanding is dominated by buddleia, with some smaller stands growing in the cracks of the hardstanding.
- 3.2.9 To the south of the former carpark is a third area of hardstanding. It was described in the 2015 report as being in a good state of repair, with re-colonizing species such as rank grassland, tall ruderal and scrub being present. These habitats are still present and do not appear to have changed significantly.
- 3.2.10 Hardstanding is also present around the periphery of both B1 and B2, and again, no significant changes have taken hold. Scrub habitats continue to colonize the cracks of all areas of hardstanding, and scattered buddleia dominates in all areas.

Grassland / Ruderal / Scrub Mosaic

- 3.2.11 The north-west area of the site was described in the 2015 report as supporting a grassland / tall ruderal / scrub vegetation mosaic, with a small number of immature and semi-mature trees present around its margin. However, following strimming and vegetation clearance associated with the construction of the new access road (as documented in the 2015 Ecological Assessment BMD.219.EA.00), this habitat is now better described as ephemeral / short perennial with a limited number of taller ruderal species.
- 3.2.12 Species recorded within the habitat mosaic in the north-west of the site included, birds foot trefoil, black medick, creeping buttercup, broadleaved dock, bristly ox-tongue, creeping cinquefoil, creeping thistle, dandelion, greater plantain, hardhead, oxeye daisy, perforated St John's wort, red clover, lesser trefoil, mignonette, ribwort plantain, rose, silverweed, spear thistle, white clover, white dead nettle, yarrow and traveller's joy. Ruderal species included, teasel, hogweed, wild carrot and willowherb. Scattered and occasional continuous scrub on the eastern boundary included, bramble, buddleia, elder, goat willow, and two stands of Japanese knotweed.

- 3.2.13 The patches of rank grassland previously described in this habitat were no longer present although there were some very limited patches where rough meadow grass, false oat and red fescue were present, again along the eastern boundary.

Shrub / Tree / Ruderal Mosaic (Northern Embankment)

- 3.2.14 To the north of the area of ephemeral / short perennial detailed above is an embankment described in the 2015 report as comprising shrubs / immature and semi-mature trees / ruderal vegetation, with some limited patches of rank grassland. This description of the vegetation was still valid following the walk-over survey, however, since the 2013/14 surveys, the site access road has been constructed and now separates the northern embankment from the former grassland /ruderal /scrub mosaic.

Scattered and Continuous Scrub

- 3.2.15 Scattered and continuous scrub is present throughout the site and the greatest extent of scrub described in the 2015 report was situated within the north-west section of the site adjacent to the railway line. However, the majority of this scrub is no longer present and was likely removed when the access road was put in. There are still areas of dense scrub to the west of the new access road, and scattered and continuous scrub along the northern embankment and on the east boundary of the ephemeral / short perennial area, although to a lesser extent than previously described.
- 3.2.16 Scattered and occasionally dense bramble scrub was previously described as encroaching on the areas of former amenity planting around the boundaries of the building complexes. This encroachment has continued due to a lack of management with less of a distinction between the amenity planting and the scattered scrub. In all of these areas buddleia dominates with bramble and occasional saplings of sycamore, oak and ash.
- 3.2.17 In the north-west corner of building B1a natural succession has resulted in a change of habitats since the previous surveys. This area was previously described as amenity planting and scattered scrub, but is now impenetrable and dominated by dense bramble and buddleia.
- 3.2.18 The areas of scattered scrub in the south of the site were only viewed from a distance, but little change was apparent. Although it would be anticipated that scattered scrub has continued to colonize and it is likely to be a greater extent than previously described.
- 3.2.19 Scattered scrub, in the form of buddleia, has also colonised external areas of the buildings, particularly the security and contractors hut associated with building B1.

Bare / Re-colonizing Ground

- 3.2.20 Areas of bare / recolonizing ground were described throughout the site in the 2015 report and this habitat type has not undergone any significant changes.

Ruderal Vegetation

- 3.2.21 Ruderal vegetation is still present in the north-west area of the site as well as in the former amenity planting and grassland areas around the boundaries of the buildings.
- 3.2.22 In the 2015 report the eastern margin of the former car-parking area associated with Building B1 was described as tall ruderal, however, this area is now dominated by buddleia and bramble and would be better described as continuous scrub. Furthermore, the north-west corner of the Shredded Wheat building complex (B1a) was also described as tall ruderal, however, succession has resulted in the loss of this habitat, which is now dominated by dense buddleia with occasional bramble scrub.
- 3.2.23 Tall ruderal vegetation continues to be associated with other habitats on site, including the areas of hardstanding, former amenity planting and former amenity grassland, and scattered within a number of the areas of bare / re-colonizing ground. Species around the site include hogweed, willowherb, teasel, creeping thistle, spear thistle, ragwort and great mullein.

Trees

- 3.2.24 Three distinct tree belts were described in the 2015 report; the largest along the south-west boundary of the site. The trees listed along this belt in the 2015 report included hybrid black poplar, bird cherry and sycamore, with occasional horse chestnut, whitebeam sp., ash, English elm and red oak. Only five of these trees could be assessed, whilst the rest of this belt was beyond the point of access. However, the belt was confirmed as still being present, and the age and condition of the trees are unlikely to have changed significantly since the previous report.
- 3.2.25 The belt along the north boundary was also still present and the species condition as described. Species recorded in the 2015 report included semi-mature lime and a single semi-mature bird cherry, which were confirmed in the verification survey.
- 3.2.26 The third belt in the former car-parking area associated with the Shredded Wheat building complex, comprised semi-mature sycamore, Norway maple, hornbeam, horse chestnut and semi-mature copper beech.
- 3.2.27 The six 'immature' sycamore trees described in the 2015 report in hedgerow two (H2) were present, however, their age and height (<5 m) makes it difficult to identify them as six individual trees. No main stems could be identified and this habitat may have been subject to management, resulting in a scrubby regrowth. As such, they have been removed as 'trees' from the updated Phase 1 Habitat map and replaced with 'scattered scrub'.
- 3.2.28 In 2015 the trees on site (particularly semi-mature) were described as providing a number of potential opportunities to a range of faunal species / groups, particularly birds, bats and invertebrates. This conclusion was confirmed as valid, as the age and condition of trees on site had not undergone any significant changes.

Amenity Grassland (Rank)

- 3.2.29 Linear strips of former amenity grassland were described throughout the site in the 2015 report, which at the time of survey were unmanaged and becoming rank, with ruderal and scattered scrub starting to encroach. These descriptions are still valid, as the habitats do not appear to have been subject to any management. There are several herb species in these grassland areas including: perforated St John's wort, ragwort, yarrow, creeping cinquefoil, ribwort plantain, dandelion, ground ivy, red clover, birds foot trefoil, cleavers and oxeye daisy. As such the grassland areas are on the cusp of being reclassified as semi-improved grassland if lack of management continues.

Amenity Planting

- 3.2.30 The areas of amenity planting to the north of B1a described in the 2015 report are becoming less distinct. The area previously on the north-west corner of B1a is no longer visible as dense bramble and buddleia has made the area impenetrable. The areas on the north boundary are also becoming less distinct with ruderal and scattered scrub encroaching these areas. Wall cotoneaster and honeysuckle species were frequent in the area to the north of B1a. The amenity planting around B2 were more distinct with the area to the east of B2 now more dominant, including species of spindle and cotoneaster species, with bramble also colonising this area.

Amenity Hedgerows

- 3.2.31 The amenity hedgerows were found to be as described in the 2015 report in terms of assemblage and condition, however, as previously discussed, the sycamore 'trees' in H2 have been reclassified as scrub.

Invasive Plants

- 3.2.32 In the 2015 report five stands of Japanese knotweed were described. It is understood these were chemically treated ahead of the access road construction. However, during the 2017 walk-over survey two stands were identified and were found in the same vicinity as the previously labelled stands JK1 and JK2.
- 3.2.33 Cotoneaster species including wall cotoneaster were identified within the areas of amenity planting around the boundaries of the former Shredded Wheat factory, and was confirmed as still present in 2017. This invasive species was also recorded within various other locations around the site including the northern embankment, within the strip of rank grassland / scrub / trees along the southern-western boundary of the site, and within the area of hardstanding, which supports the footbridge over the railway line in the central section of the site, however not all of these areas were accessible on the day of the 2017 survey. However, if they have not been managed / removed, then it is assumed this species is still present in these areas.

- 3.2.34 Rhododendron was previously identified within the area of dense amenity planting situated adjacent to the north-west corner of Building B1. This was not confirmed during the walk-over, however, if it has not been treated, and, or removed, then it is assumed to still be present.

Miscellaneous Habitats

- 3.2.35 Three large vegetation / earth / log / rubble piles were described in the 2015 report as potential hibernacula.
- 3.2.36 One pile was located to the south of the former amenity planting in the north-west corner of B1a. This habitat was assessed during the walk-over survey and found to be unsuitable as hibernacula. The pile was made up of debris, likely from the overturned waste bin, and encroaching bramble with very little in the way of earth / log or rubble.
- 3.2.37 The pile located in the former grassland / ruderal / scrub mosaic in the north-west could no longer be described as a rubble pile. This area is now a raised embankment of compacted earth, limiting hibernation opportunities.
- 3.2.38 The pile in the south-west was not surveyed due to access constraints and could not be confirmed.

3.3 Species

Badger

- 3.3.1 Two large mammal excavations were recorded at the site in 2013, however, only one of these areas could be accessed during the walk-over survey. There was no obvious entrance hole, this could have been as a result of vegetation cover, or it may have been dismantled during the access road construction. The lack of any evidence (spoil, hairs, prints, snuffle holes) indicates that this area is not being used by badgers.
- 3.3.2 The mammal excavation in the south-west boundary of the site was not reassessed however, both excavations were monitored in 2013/14 and recorded as inactive.
- 3.3.3 There were no other signs to suggest that badgers are utilising the site for foraging or commuting. The results of the 2013/14 surveys are still considered valid and badgers do not need to be considered further.

Bats

- 3.3.4 The evaluation of the buildings on site in relation to supporting roosting bats in the 2015 report are considered valid. No significant changes have taken place which would result in the need to reclassify the buildings bat roosting potential. As such the recommendation to remove 'minor' features of roosting potential under a watching brief as agreed (in principle) with Hertfordshire's Ecology Advisor is still considered appropriate.

- 3.3.5 The trees on site previously identified as having Bat Conservation Trust (BCT) 2012 category 1 / 2 (equivalent to 'moderate' in 2016 BCT guidelines) potential to support roosting bats were not re-surveyed due to restricted access, however, the trees are still present and it is assumed that no significant changes will have taken place to result in the need to reclassify these trees.
- 3.3.6 The foraging and commuting features previously described in the 2015 report are considered to remain valid. The habitats on site, will offer some limited opportunities to foraging bats in what is otherwise a very urban environment. However, habitats on site are considered only sub-optimal in the context of the habitats in the wider area such as Sherrardspark Wood SSSI which is just 900m north-west.
- 3.3.7 The adjacent railway line was described as a potential wildlife corridor in the 2015 report and recommendations to reduce impacts on this area are considered to be valid.

Hazel Dormice

- 3.3.8 In 2015, it was concluded that the small extent and sub-optimal nature of the habitats on site, along with lack of suitable habitat corridor connecting the site with Sherrardspark Wood, make it highly unlikely that hazel dormice would utilise the site. No further survey work or mitigation measures were deemed necessary. These conditions have remained the same and this conclusion is considered valid.

Other Mammals

- 3.3.9 The site was highlighted in the 2015 report as providing suitable opportunities for hedgehog, a Section 41 (S41) listed species. However, the area considered of particular suitability was the mosaic of habitats in the north-west as it was connected to the railway corridor which could be used for dispersal. The north-west of the site now only offers sub-optimal habitat. However, the hedgerows, scrub and rank grassland areas continue to offer some limited opportunities for this species.
- 3.3.10 Whilst undertaking the walk-over survey in 2017, a fox was recorded in the hedgerow (H2) in the north-west, and reinforces conclusions from previous surveys that the site is used by fox, particularly the areas in the north-west. Foxes are not listed as protected or notable species in the legal or planning sense although are covered by the general Wild Mammals (Protection) Act 1996 which is outlined in Appendix B.

Birds

- 3.3.11 The habitats on site, such as the scrub, hedgerows, trees and the buildings are still considered to offer nesting opportunities to a small number of bird species. There have been no significant changes to the habitats, and as such the 2015 conclusions are considered valid. The pair of peregrine falcons recorded in 2014 were not seen during the 2017 walk-over survey. It is our

understanding that while they have not been confirmed as nesting on site in recent years they were at least investigating the silo towers this breeding season (*pers comm*).

Reptiles

- 3.3.12 Extensive reptile work was undertaken on the site in 2014, including surveys and subsequent translocation. The translocation work was considered necessary at that time due to the imminent construction of the site access road under Planning Permission N6/2013/2305/MA, which is now complete. The results of this survey work found a low / very low population of slow-worm. During translocation works 274m of reptile exclusion fencing was installed along the western and northern boundaries of this section of the site. It was also installed along a short section of the south-eastern boundary of this area. Captured slow-worm were translocated to a receptor site outside the development footprint, but adjacent to the railway corridor. The majority of slow-worm were captured within the western section of the site, which previously abutted the railway corridor. No other reptile species were seen or captured at the site during the reptile translocation exercise.
- 3.3.13 Since the 2014 translocation work, the access road has been constructed and the habitat where the majority of slow-worm were captured has changed significantly:
- The access road now separates the railway corridor from the former north-west grassland / ruderal / scrub mosaic.
 - The north-west area now only offers sub-optimal habitat for reptiles.
 - The habitat as discussed above has been reclassified as an ephemeral / short perennial and thus offers less opportunities to reptiles.
 - The former amenity grassland habitat on site, now rank in nature could offer some very limited opportunities to reptiles, however, previous survey and translocation work did not record any reptiles in these areas, and it seems highly unlikely that they would have colonised these areas in the interim period.

Amphibians

- 3.3.14 Great crested newts were scoped out during the 2013/14 survey work due to a lack of suitable breeding ponds within 250 m of the site, and a lack of suitable habitat on site. Since this survey work, there have been no significant changes to the habitats to change this conclusion and as such is still considered valid.

Invertebrates

- 3.3.15 It was concluded in previous surveys that it would be unlikely that any protected, rare or notable invertebrate species would inhabit the site and no further survey work or mitigation measures were considered necessary. It was also acknowledged by HBRC that further survey for

invertebrate species at the site was not warranted given the habitats present. Given that no significant changes have taken place on site, these conclusions are considered to remain valid.

3.4 Summary

- 3.4.1 While there have been some changes to the habitats on site resulting from a lack of management and from the construction of the site access road in the north-west, the overall conclusions reported in the 2015 assessment are still considered appropriate.

4. CONCLUSIONS AND RECOMMENDATIONS

4.1 Introduction

- 4.1.1 Following the review of the 2015 report and completion of an updated desk study and site survey, it is considered that the conclusions and recommendations from 2015 remain valid. The key considerations (from the 2015 report) are discussed below in relation to the current proposals.

4.2 Habitats

Semi-mature Trees

- 4.2.1 Previous recommendations in relation to the retention of semi-mature trees on site are considered to remain valid. Any trees that are removed must be replaced with native tree species of local provenance as per previous advice.

Invasive Plants

- 4.2.2 The Japanese knotweed in the north-west of the site was likely to have been chemically treated prior to the construction of the access road. However, two stands have returned and will need to be retreated until eradicated.
- 4.2.3 Due to the nature of Japanese knotweed, there is a risk it could have spread to other areas of the site. In order to reduce further spread and contamination during site works, dense areas of scrub should be thoroughly checked to ensure no other emerging areas of knotweed are present.
- 4.2.4 Cotoneaster sp. / wall cotoneaster is still present around the site and as per previous advice will need to be either chemically treated with a glyphosate herbicide or mechanically removed. The rhododendron is assumed to be present and will also require eradication, which includes cutting back all vegetative growth and treating the stumps with herbicide or removal of roots.

4.3 Protected Species

- 4.3.1 The 2015 report concluded that some species and species groups may be adversely affected as a result of development. The National Planning Policy Framework (NPPF) requires that developments should “*contribute to conserving and enhancing the natural environment*”. Thus, where appropriate, recommendations were made to enhance the sites biodiversity for these species. There remains potential for species and species groups to be adversely affected by the current proposals; these are discussed below.

Bats

- 4.3.2 The buildings on site were deemed to offer only negligible-low opportunities for bats and further survey work was considered unnecessary. However, a precautionary approach was

recommended that involved maintaining a watching brief during demolition works. This recommendation is considered appropriate and remains valid.

- 4.3.3 Four trees present at the site were identified as offering limited roosting opportunities to bats. It was not possible to reassess these trees; however, they are assumed to be in a similar condition. If the trees are to be impacted, and, or felled further inspection was recommended during the bat active season. In line with this, it is recommended that an aerial tree climbing inspection of potential roost features (PRFs) is undertaken at least 24 hours prior to their removal. If any evidence of bats is found, then works will need to stop and a full suite of emergence / re-entrant surveys will need to be undertaken in order to characterise the potential roost.
- 4.3.4 It was acknowledged in the 2015 report that Highways requirements and public health and safety requirements mean new artificial lighting columns will be required at the site including in the immediate vicinity of the railway. It was recommended that this lighting take consideration of the locations, aspect, and / or type of new artificial lighting columns installed. Specific recommendations which are still valid were made in consideration of:
- *The type of lamps utilized.*
 - *The size and number of the lighting columns utilized.*
 - *The luminaire and light spill (i.e. could hoods, cowls, louvers or shields be utilized)*
 - *The timing of the lighting (i.e. could the new lighting columns be switched off during part of the night to provide some dark periods over the summer months).*
- 4.3.5 In addition to this, it is also recommended that during construction and operational phases of the development, the use of artificial lighting should follow the guidelines in the Institute for Lighting Engineers document 'Guidance for the Reduction of Obtrusive Lighting' (2005) and BCT's 'Artificial Lighting and Wildlife Interim Guidance: Recommendations to Help Minimise the Impact of Artificial Lighting' (2014).
- 4.3.6 Enhancements for bats included the erection of bat boxes (Schwegler 2F and 1FF) on retained trees as well as the incorporation of bat features (e.g. bat bricks, roosting units, bat tubes, and/or bat tiles) into a number of the new buildings proposed at the site. It was also recommended that that new landscaping be provided along the north-west boundary of the site to help ameliorate potential lighting impacts upon the adjacent bat foraging / commuting corridor. These enhancement recommendations are still considered appropriate for the site and no further recommendations are made.

Hedgehog

- 4.3.7 Some of the habitats on site were considered suitable for hedgehogs, although the north-west area of the site is now considered to be sub-optimal. However, given the extensive desk study records for this species, it was recommended in the 2015 report that a watching brief is

maintained during vegetation clearance works, this is still considered to be valid recommendation.

- 4.3.8 Furthermore, it was recommended that a number of Schwegler woodcrete hedgehog nesting domes be provided, which is also still considered appropriate.

Fox

- 4.3.9 The 2015 report recommended a watching brief for fox during clearance of dense scrub vegetation, particularly in the north-west of the site where this species has been recorded. This is still considered to be valid.

Birds

- 4.3.10 Although there was no confirmed evidence of peregrine falcons during the 2017 walk-over survey, it is strongly recommended that the site is re-assessed for its use / likely future use by peregrines; a de-risking exercise may be necessary to reduce potential nesting on site next year. This would aim at minimising any potential development delay, especially if it is anticipated that works would be taking place in breeding seasons.
- 4.3.11 With regards to other areas of the site and suitability for nesting birds, the conclusions and recommendations made in 2015 are still considered valid and appropriate, notably the following:
- Any clearance of suitable nesting habitat (particularly the mature scrub /semi-mature and mature trees) should be undertaken outside of the nesting season (outside of late February–August inclusive).
 - If this is not practicable, then it is recommended that all suitable nesting habitat scheduled to be removed, should first be inspected by a suitably qualified ecologist no more than 48 hours prior to removal. Should any active nests be found to be present, these should be cordoned off and protected until the chicks have fully fledged or nest naturally abandoned.
- 4.3.12 Enhancement recommendations made in 2015 in relation to birds remain appropriate and include the following:
- Nesting opportunities for house sparrow UK BAP listed species to be provided with a number of Schwegler 1SP Sparrow Terraces installed upon the new buildings.
 - A number of Schwegler No.3S starling boxes to be installed given that this UK BAP / RSPB Red-listed species was recorded within the site during 2013/14 survey work. Records were also returned from the local area in the data searches.
 - Install a number of Schwegler 1B standard bird boxes which are suitable for a wide variety of bird species.

- Install a number of Schwegler 2H open-fronted nest boxes which are often utilized by species such as wren (recorded during 2013/14 survey work).
- New areas of dense shrub planting to be incorporated into the landscape proposals to provide natural nest sites for species such as song thrush, which is a UK BAP Priority Species.
- It was recommended areas of new tree and shrub planting incorporate a number of native fruit and seed-bearing species to provide an additional foraging resource for birds at the site.

Reptiles

- 4.3.13 Following the 2014 reptile translocation works it was considered that no further reptile survey or mitigation works would necessary after completion of the access road works and prior to commencement of further development.
- 4.3.14 Following the 2017 walk-over assessment, it is agreed that no further survey effort is required at the site however, some minor mitigation is recommended as a low risk remains of reptiles being on site. Mitigation should include controlled habitat manipulation, with a watching brief maintained during clearance of dense scrub vegetation, particularly in the north-west of the site where this species was recorded.
- 4.3.15 The 2015 report recommended provision of hibernacula in the north-west area of the site, which is appropriate.

Invertebrates

- 4.3.16 Although no further action was deemed necessary on site with regards to invertebrates, enhancement measures were recommended which remain valid and include the following:
- Alternative foraging habitat be provided for bumblebees and butterflies, as per Natural England's 2007 publication entitled 'Plants for Wildlife-friendly Gardens'.
 - A stag beetle loggery be created within one of the new areas of boundary planting.
 - A number of potential nesting sites be created for bumblebees at the site including areas of deadwood / log piles partially covered with a topsoil cap.
 - Arisings from tree works used to create brashwood and log piles within vegetated areas around the boundaries of the site, whilst standing or fallen deadwood in these areas should be retained *in situ* assuming health and safety considerations allow.

4.4 Landscape

- 4.4.1 The 2015 report made recommendations for landscape planting to incorporate a wide variety of native species of local provenance and/or wildlife friendly species as per Natural England's 2007 publication entitled 'Plants for Wildlife-friendly Gardens'. This recommendation is considered appropriate and valid. The 2015 report recommended pedunculate oak, ash, field maple, silver birch, willow sp., apple species (particularly crab apple), pear species and wild cherry.
- 4.4.2 Native shrub species of particular benefit would include seed and fruit bearing species, which would provide an abundance of additional food for wildlife, including hawthorn, elder, hazel, cherry plum, blackthorn, holly, guelder rose, wild privet and particularly willow species
- 4.4.3 In addition, it was recommended that a number of climbers be incorporated into the planting proposals, including native species such as climbing roses, honeysuckles and wild clematis species.
- 4.4.4 Advice pertaining to the limited management of grassland areas (twice-yearly mowing regime) was also considered to be valid and appropriate.

4.5 Conclusion

- 4.5.1 In conclusion, there has been some habitat change since the 2015 report. However, overall the subsequent reports are still considered to be valid with the exceptions detailed in this current document.

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6. APPENDICES

APPENDIX A: Phase 1 Habitat Map

APPENDIX B: Legislation and Policy

Included is a brief summary of legislation of relevance to the current report. The original texts of the relevant legislation or specific legal advice should be consulted in individual cases where appropriate.

European Protected Species

The Bern Convention (The Convention on the Conservation of European Wildlife and Natural Habitats) was adopted in 1979 and came into force in 1982. To implement this agreement, the European Community adopted the EC Habitats Directive. The EC habitats directive has been transposed into UK legislation by the Wildlife and Countryside Act, 1981 (as amended) and the Conservation of Habitats and Species Regulations, 2010. The Countryside and Rights of Way Act (CRoW), 2000 strengthened the existing wildlife legislation in the UK. The UK has also signed The Bonn Convention (The Convention on the Conservation of Migratory Species of Wild Animals) and is therefore party to various agreements.

In relation to a development a person commits an offence if they:

- deliberately capture, injure or kill a European Protected Species;
- deliberately or recklessly disturb wild animals of any such species in such a way as to be likely significantly to affect;
- the ability of any significant group of animals to survive, breed, or rear or nurture their young; or
- the local distribution or abundance of that species.
- damage or destroy a breeding site or resting place (even if unintentional or when the animal is not present); and
- intentionally or recklessly obstruct access to a structure or place used for protection or shelter.

This legislation applies, regardless of the life stage (including eggs).

A European Protected Species Licence is required to carry out any activity that would otherwise involve committing an offence.

Bats

All UK bat species and their roosts are protected under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). All bats are also included in Schedule 2 of the Conservation of Habitats and Species Regulations 2010 (as amended) (Habitats Regulations), which defines "*European protected species of animals*" and are afforded further protection through the Countryside and Rights of Way Act, 2000. The Countryside and Rights of Way Act 2004 (CRoW) (OPSI CROW, 2009) has amended the WCA in England and Wales and this act adds additional enforcement, making offences arrestable, increasing time limits for some prosecutions and increasing penalties.

The combined legislation makes it illegal to:

- Intentionally kill, injure or capture bats;

- Deliberately disturb bats (whether in a roost or not);
- Damage, destroy or obstruct access to bat roosts;
- Possess or transport a bat or any part of a bat, unless acquired legally; and
- Sell, barter or exchange bats, or parts of bats.

In this interpretation, a bat roost is "*any structure or place which any bat uses for shelter or protection*". Because bats tend to reuse the same roosts, legal opinion is that the protection of bat roosts are considered to apply regardless of whether bats are present or not. There is currently no guidance on when a roost ceases to be protected if it is not used by bats.

If planned works would constitute an offence they must only be carried out under licence from Natural England. Works or mitigation activities involving interference with bats or bat shelters must be carried out by a licensed bat worker (with a Natural England Bat Licence).

A European Protected Species Licence is required to carry out any activity that would otherwise involve committing an offence.

Nesting Birds

All wild birds are protected under part 1 of the Wildlife and Countryside Act, 1981 (as amended). Therefore, in the UK it is an offence to:

- take, damage or destroy the nest of any wild bird whilst it is being built or in use;
- kill, injure or take any wild bird; and
- take or destroy the eggs of any wild bird.

To avoid committing an offence no works should be carried out on a structure/ feature that is being used by nesting birds. Nesting is deemed to be over when the young have fully fledged.

Certain species which are listed in Schedule 1 of the Wildlife and Countryside Act receive special protection. In these cases, any form of intentional or reckless disturbance when they are nesting or rearing dependant young, constitutes an offence and carries higher penalties.

Wild Mammals (including Rabbits, Foxes, Deer etc)

Mammal species not of primary conservation importance do receive a degree of protection within the Wild Mammals (Protection) Act 1996. This includes offences which have implications for site clearance (particularly in the case of burrowing species such as rabbits and foxes) such as crushing or asphyxiation of any wild mammal with intent to cause unnecessary suffering.

It is therefore recommended that where these species are present a method statement aimed at careful excavation of burrows (or undertaking efforts to exclude these animals from burrows) takes place to avoid offences under this legislation.

Policy

The Natural Environment and Rural Communities (NERC) Act 2006

This act places a duty on Government Departments to have regard for the conservation of biodiversity and maintains lists (Section 41 in England and Section 42 in Wales) of species and habitats which are of principal importance for the purposes of conserving biodiversity in England and Wales.

National Planning Policy Framework

The National Planning Policy Framework (NPPF) was published on the 27th March 2012. This policy framework has replaced many of the former Planning Policy Statements including Planning Policy Statement 9: Biodiversity and Geological Conservation (PPS9).

The NPPF contains reduced content with regards specific advice for biological conservation compared to that set out in PPS9. However, much content is comparable with regards the needs for maintaining and enhancing biodiversity within planning policies and decisions. Specific sections of particular relevance include:

- Paragraph 165: *“Planning policies and decisions should be based on up-to-date information about the natural environment”.*
- Paragraph 118: *“When determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying the following principles:”* including...
 - *“if significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts). adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;”*
 - *“proposed development on land within or outside a Site of Special Scientific Interest likely to have an adverse effect on a Site of Special Scientific Interest (either individually or in combination with other developments) should not normally be permitted. Where an adverse effect on the site’s notified special interest feature is likely, an exception should only be made where the benefits of the development, at this site, clearly outweigh both the impacts that it is likely to have on the features of the site that make it of special scientific interest and any broader impacts on the national network of Sites of Special Scientific Interest;”*
 - *“development proposals where the primary objective is to conserve or enhance biodiversity should be permitted”*
 - *“Opportunities to incorporate biodiversity in and around developments should be encouraged;”*
 - *“planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss;”*

APPENDIX C: Species List

Tables C.1 and C.2 list the species mentioned in the current report.

Table C.1 Species mentioned in the current report (flora)

Flora	Recorded during 2017 survey
Apple species. <i>Malus</i> spp.	
Ash <i>Fraxinus excelsior</i>	✓
Bird cherry <i>Prunus padus</i>	✓
Birds foot trefoil <i>Lotus corniculatus</i>	✓
Black medick <i>Medicago lupulina</i>	✓
Blackthorn <i>Prunus spinosa</i>	
Bramble <i>Rubus fruticosus</i> agg.	✓
Bristly ox-tongue <i>Helminthotheca echioides</i>	✓
Broadleaved dock <i>Rumex obtusifolius</i>	✓
Buddleia species <i>Buddleja</i> spp.	✓
Cherry plum <i>Prunus cerasifera</i>	
Cleavers <i>Galium aparine</i>	✓
Clematis species. <i>Clematis</i> spp.	
Copper beech <i>Fagus sylvatica</i> f. <i>purpurea</i>	✓
Cotoneaster species. <i>Cotoneaster</i> spp.	✓
Creeping buttercup <i>Ranunculus repens</i>	✓
Creeping cinquefoil <i>Potentilla reptans</i>	✓
Creeping thistle <i>Cirsium arvense</i>	✓
Dandelion species <i>Taraxacum</i> spp.	✓
Elder <i>Sambucus nigra</i>	✓
English elm <i>Ulmus procera</i>	
False oat grass <i>Arrhenatherum elatius</i>	✓
Field maple <i>Acer campestre</i>	
Goat willow <i>Salix caprea</i>	✓
Great mullein <i>Verbascum thapsus</i>	
Greater plantain <i>Plantago major</i>	✓
Guelder rose <i>Viburnum opulus</i>	
Hardhead <i>Centaurea nigra</i>	✓
Hawthorn <i>Crataegus monogyna</i>	
Hazel <i>Corylus avellana</i>	
Hogweed <i>Heracleum sphondylium</i>	✓
Holly <i>Ilex aquifolium</i>	
Honeysuckles <i>Lonicera</i> spp.	✓
Hornbeam <i>Carpinus betulus</i>	✓
Horse chestnut <i>Aesculus hippocastanum</i>	✓
Hybrid black poplar <i>Populus x canadensis</i>	
Japanese knotweed <i>Fallopia japonica</i>	✓
Lesser trefoil <i>Trifolium dubium</i>	✓
Lime <i>Tilia x europaea</i>	✓
Norway maple <i>Acer platanoides</i>	✓
Oxeye daisy <i>Leucanthemum vulgare</i>	✓
Pear <i>Pyrus</i> spp.	
Pedunculate oak <i>Quercus robur</i>	✓
Perforated St John's wort <i>Hypericum perforatum</i>	✓
Ragwort <i>Jacobaea vulgaris</i>	✓
Red clover <i>Trifolium pratense</i>	✓
Red fescue <i>Festuca rubra</i> agg.	✓
Red oak <i>Quercus rubra</i>	
Rhododendron <i>Rhododendron</i> spp.	

Flora	Recorded during 2017 survey
Ribwort plantain <i>Plantago lanceolata</i>	✓
Rose species. <i>Rosa</i> spp.	✓
Rough meadow grass <i>Poa trivialis</i>	
Silver birch <i>Betula pendula</i>	
Silverweed <i>Potentilla anserina</i>	✓
Spear thistle <i>Cirsium vulgare</i>	✓
Spindle species <i>Euonymus</i> spp.	✓
Sycamore <i>Acer pseudoplatanus</i>	✓
Teasel <i>Dipsacus fullonum</i>	✓
Traveller's joy <i>Clematis vitalba</i>	✓
White clover <i>Trifolium repens</i>	✓
White dead nettle <i>Lamium album</i>	✓
Whitebeam species <i>Sorbus</i> spp.	
Wild carrot <i>Daucus carota</i>	✓
Wild cherry <i>Prunus avium</i>	
Wild mignonette <i>Reseda lutea</i>	✓
Wild privet <i>Ligustrum vulgare</i>	
Willow species <i>Salix</i> spp.	
Willowherb spp. <i>Epilobium</i> spp.	✓
Yarrow <i>Achillea millefolium</i>	✓

Notes. * Species recorded on site during 2017 survey

Table C.2 Species mentioned in the current report (fauna)

Fauna	Recorded during 2017 survey
Badger <i>Meles meles</i>	
Common Crossbill <i>Loxia curvirostra</i>	
Curlew <i>Numenius arquata</i>	
Firecrest <i>Regulus ignicapilla</i>	
Great crested newt <i>Triturus cristatus</i>	
Green Sandpiper <i>Tringa ochropus</i>	
Harrier spp. <i>Circinae</i> spp.	
Hawfinch <i>Coccothraustes coccothraustes</i>	
Hazel dormouse <i>Muscardinus avellanarius</i>	
Hedgehog <i>Erinaceus europaeus</i>	
Hen Harrier <i>Circus cyaneus</i>	
House Sparrow <i>Passer domesticus</i>	
Lapwing <i>Vanellus vanellus</i>	
Peregrine falcon <i>Falco peregrinus</i>	
Red fox <i>Vulpes vulpes</i>	✓
Red kite <i>Milvus milvus</i>	
Skylark <i>Alauda arvensis</i>	
Slow worm <i>Anguis fragilis</i>	
Spotted Flycatcher <i>Muscicapa striata</i>	
Stag beetle <i>Lucanus cervus</i>	
Starling <i>Sturnus vulgaris</i>	
Swallow <i>Hirundo rustica</i>	
Tree sparrow <i>Passer montanus</i>	
Wren <i>Troglodytes troglodytes</i>	



APPENDIX 13

WATER QUALITY, HYDROLOGY AND FLOOD RISK



APPENDIX 13.1 – GROUNDSURE REVIEW REPORT

Report Reference: 15857007
Your Reference: 15857007
Report Date: 13 Oct 2016
Report Delivery Method: **Email - pdf**
processing@tmgroup.co.uk

Groundsure Review

**Address: Factory premises on the North West side of
Broadwater Road, Welwyn Garden City, AL7 3AX**

Dear Sir/Madam,

Thank you for placing your order with TM Group. Please find enclosed the Groundsure Review report as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 0844 249 9202 quoting the above report reference number.

Yours faithfully,

TM Group

Enc.
Groundsure Review

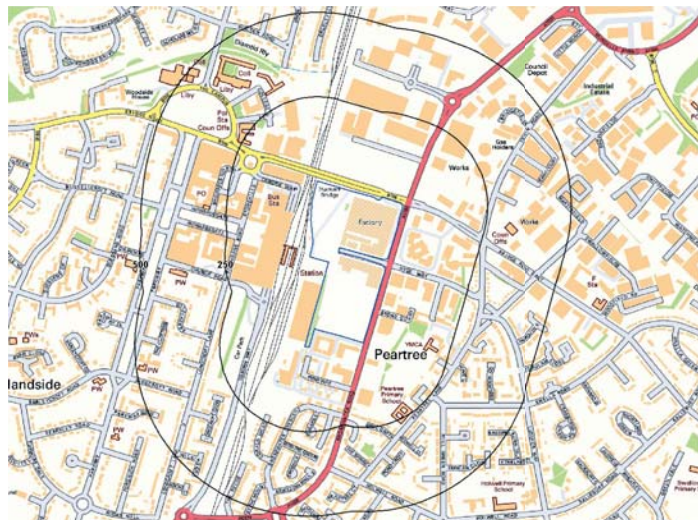
Groundsure Review

Address: Factory premises on the North West side of Broadwater Road, Welwyn Garden City,
AL7 3AX

Date: 13 Oct 2016

Your Reference: 15857007

Client: TM Property



Aerial Photograph of Study Site



Aerial photography supplied by Getmapping PLC.
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Site Name: Factory premises on the North West side of
Broadwater Road, Welwyn Garden City, AL7 3AX

Grid Reference: 524196,212950

Size of Site: 8.65 ha

Report Reference: 15857007

Executive Summary: Environmental Risk

The following opinion is provided by Groundsure on the basis of the information available at the time of writing and contained within this report.

In Need of Further Assessment

Is there a risk of statutory (e.g. Part 2A EPA 1990) or third party action being taken against the site?	In Need of Further Assessment
Does the property represent Acceptable Banking Security from an environmental risk perspective?	In Need of Further Assessment
Is there a risk that the property value may be impacted due to environmental liability issues?	In Need of Further Assessment
What is the potential for environmental risk associated with property ownership i.e. that a prudent purchaser may wish to consider further?	Moderate – High

Recommendations

Groundsure considers that the following additional actions may further clarify the identified environmental risks:

- Undertake vendor enquiries in respect of existing environmental reports relating to the property.
- As the site is to be redeveloped, it is highly likely that further work to assess/remediate contaminated land will be required as part of the planning process. Furthermore, changes to requirements for planning applications brought about by the introduction of the Standard Planning Application Form (1APP) may dictate that a Phase 1 Desk Study be required to be submitted with a planning application.
- Given the above, Groundsure highly recommends undertaking further consultations with the Planning and Environmental Health Departments of the Local Authority in order to clarify what further measures will be required as part of the planning application and any subsequent permission for the proposed development.

Groundsure would be pleased to provide you with a quotation to undertake a Phase 1 assessment of the property. The cost of this further assessment would include a discount to reflect the entire cost of the report already undertaken.

Further Information

Environmental Consultancy: If you would like any further assistance regarding this report, please consult our FAQs located at <http://www.Groundsure.com/help-documents/faqs>. If anything further is required contact the Groundsure Helpline to discuss the findings free of charge.

Phase 1 Environmental Risk Assessment: If you would like to undertake a Phase 1 Environmental Risk Assessment, Groundsure would be pleased to provide you with a quotation for this more detailed assessment of the property. The cost of the Phase 1 would include a discount to reflect the entire cost of the report already undertaken. Whilst quotes are provided on a site-specific basis, these reports generally start from approximately £1,200+VAT. Please note that a Phase 1 report will often be required to support planning applications.

Environmental Insurance: Environmental insurance may be available for the subject property. Please contact Groundsure for further details.

Consultancy Opinion

Current Land Use

Groundsure has been advised by the client (or their advisers) that the property currently comprises open space and light industrial premises and will be redeveloped for mixed retail and residential use.

The 8.65ha site has been identified to comprise a factory with associated ancillary units in the north east and an 'L-shaped' factory in the mid-east. The southern region appears to have been cleared for redevelopment and an access road crosses the north western boundary. The remainder of the plot is occupied by soft landscaping and hardstanding.

The study area is situated within a commercial setting and a warehouse and railway lines are adjacent to the north west. Bridge Road East lies to the north east, with an area undergoing redevelopment beyond. The south eastern boundary is bordered by Broadwater Road and residential flats lie beyond Otto Road to the south west. Furthermore, a drain is located 16m to the south east.

Historic Land Use – On Site

Historically, the site was situated within an area of open land c.1881, with a road noted to cross the north. A review of historical mapping did not reveal any significant changes until c.1923 when the road no longer crossed the plot. By c.1938 several buildings forming a cereal manufactory with tanks was built in the north east, units forming an electrical heater manufactory was in the mid-east and a film studio was in the south east. Also at this time, railway lines had been constructed to cross the central region and a road was in the north west.

No alterations were observed until c.1960 when the film studio was labelled as a factory and extended. The buildings located in the mid-east were labelled as two individual factories and two unspecified works and the factory in the north east was extended and the nearby tanks were no longer labelled. Additionally, several minor units had been built in the north western region.

The plot remained largely unchanged until c.1986 by which time, several of the buildings had been combined, further units were constructed in the north west and the railway lines were cleared. A tank was identified in the southern region at this time. The works buildings were partly demolished by c.1991 and no longer labelled and the north western units were removed by c.1993. Street level photography indicates that the southern region was cleared between c.2006 and c.2009, bringing the property into the current layout.

Historic Land Use – Surrounding Area

Historically, land use in the vicinity of the property has included the railway adjacent to the north west since c.1881; an engineering works 19m to the north c.1938-1971 which was redeveloped into warehouses c.1986-1994; a chemical products manufactory adjacent to the south c.1938, identified as a factory 1960 and a works c.1986-1991 and railway lines extending off site to the north west and south c.1938-1960.

Environmental Permits and Register Entries

The aforementioned works located adjacent to the south held a historical Part A(2)/B Permit of significant concern for chemicals/acid processes.

No entries on the Local Authority's Contaminated Land Register have been identified within 500m of the site.

Environmental Damage Regulations Sensitivity Assessment

The site has been assessed in relation to relevant receptors under the regulations, and is noted to have a high sensitivity. As the site currently appears to be in industrial use, a prudent purchaser may wish to consider operational issues further to quantify any liabilities under the Environmental Damage Regulations. If you require an assessment of operational risk at the property, please contact Groundsure for further advice.

Site Setting and Overall Environmental Sensitivity

The site is situated on underlying geology comprising superficial deposits of the Lowestoft Formation and the Kesgrave Catchment Subgroup underlain by bedrock layers of undifferentiated Lewes Nodular and Seaford Chalk Formations. Groundwater mapping indicates the superficial deposits to be classified as Secondary A and Secondary (undifferentiated) aquifers and bedrock layers to be classified as a Principal aquifer.

Potentially vulnerable receptors have been identified including current and future site users, residents of nearby dwellings, ground workers during the redevelopment, the aforementioned surface water feature and the underlying aquifers, identified to lie within Source Protection Zone 3. Groundsure considers that the property has a high environmental sensitivity.

Conclusion

Groundsure has identified that the subject site has the potential to be impacted by ground contamination as a result of historical land uses on site and in the immediate vicinity. Whilst the wider area may be similarly impacted, the significance of this issue is greater given the intention to redevelop the site. To address this issue it is recommended that a Phase 1 Environmental Risk Assessment is undertaken. This is likely to be a minimum requirement of planning consent. It is likely that some degree of physical site investigation and quantitative risk assessment will also be required to support this process. Please refer to the Groundsure Risk Assessment Methodology contained within this report.

Executive Summary: Flood Risk

The following opinion is provided by Groundsure on the basis of the information available at the time of writing and contained within this report.



Is insurance cover for flooding likely to be available for the property based upon Environment Agency Risk of Flooding from Rivers and the Sea (RoFRaS) data?	Yes
What is the highest Environment Agency Risk of Flooding from Rivers and the Sea (RoFRaS) rating for the property?	Very Low
What is the highest Environment Agency Flood Zone risk at the property?	Negligible
What is the risk of flooding from pluvial/surface water sources?	Significant
If the site were to be redeveloped, would a NPPF flood risk assessment be required?	Yes

Recommendations

It is recommended that several insurers are contacted to confirm the availability of reasonably priced insurance for the property.

The purchaser may wish to make specific enquiries of the vendor regarding the history of flooding at the property.

Risk of Flooding from Rivers and the Sea (RoFRaS)

As the site lies within or in close proximity to an area with a Very Low risk rating in the RoFRaS database, no further recommendations are required.

Environment Agency Flood Zones

No guidance required.

Groundwater Flooding

Where limited potential for groundwater flooding to occur is indicated, this means that although given the geological conditions there may be a groundwater flooding hazard. Unless other relevant information, e.g. records of previous flooding, suggests groundwater flooding has occurred before in this area you need take no further action in relation to groundwater flooding hazard.

Development Guidance

As the site is over 1 hectare in size, a brief flood risk assessment will be required for any development at the site, as defined within NPPF. Such an assessment will need to address the potential for the development to increase flood risk elsewhere through the addition of hard surfaces and the effect of new development on surface water runoff, amongst other issues.

JBA Surface Water (Pluvial) Flooding

As the site lies within an area considered to be at significant risk of surface water flooding (with a predicted depth of flooding of between 0.3m and 1m in a 1 in 75 year flooding event), it is recommended that a purchaser obtains a more detailed flood risk assessment. Some insurers may choose to not provide insurance cover for properties with a significant risk of surface water flooding. The detailed flood risk assessment will further quantify the risk of flooding at the site as well as examining the history of flooding at the site, reviewing the standard of protection afforded to the site and providing a quote for a Full Flood Risk Assessment to meet the requirements of NPPF, if required. A Groundsure Flooding Desktop Report is available from Groundsure from £500 + VAT. Please contact Groundsure for further details.

Alternatively, a purchaser may wish to consider reducing the impact of flooding at the property by installing flood protection measures at the site. Such measures may help reduce the effects of flooding at the property if flood defences are absent or are breached, and may assist in obtaining insurance for the site. Further information on flood protection measures may be obtained from the National Flood Forum or the Flood Protection Association.

Historic Flood Events

The site is not recorded to have been subject to historic flooding. However, the absence of data does not provide a definitive conclusion that the site has never flooded, only that the Environment Agency hold no record of any flooding at the site.

Additional Matters

The following additional risk issues are outside the scope of the opinion provided by this report. However, further consideration of these may be appropriate for the subject property.

Site specific features	This report has considered additional site specific information, where provided, however it has not included a site inspection. Additional issues may be present at the property that cannot be reasonably identified by a report of this nature. Such issues may include but not be limited to: ozone depleting substances, oil storage, waste management, materials handling, site drainage, etc. Should these issues be considered to be of concern further specific assessments may be required via additional surveys, inspections, etc.
Asbestos	The Control of Asbestos Regulations 2012 require an Asbestos Management Plan to be maintained for all commercial property constructed prior to 2000 i.e. where asbestos may be contained within the building fabric. Refurbishment or demolition of site structures may require further Refurbishment and Demolition Asbestos Surveys.
Infilled Land	No issues identified.
Natural Ground Subsidence	The BGS has identified a low potential for Natural Ground Instability. A prudent purchaser may wish to seek further advice on this matter from a suitably qualified surveyor or engineer.
BGS Non-Coal Mining	The BGS have identified that occasional minor past underground mining may have occurred but of restricted extent in the near vicinity of the property. Further details can be found in Section 11 of this report.
Radon	No issues identified.
Radon Protection	No issues identified.
Coal Mining	No issues identified.
Unexploded Ordnance (UXO)	The UK has a history of military activity, including extensive military training sites, bombing during the First World War and sustained strategic bombing during the Second World War. A legacy of this military activity is the incidence of UXO encountered throughout Britain to this day, particularly during construction and redevelopment works. If intrusive works are planned on site, an assessment of the likelihood of UXO risk should be carried out in compliance with the Construction (Design and Management) Regulations 2007.

Overview of Findings

For further details on each dataset, please refer to each individual section in the main report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Report Section	Number of records found within (X) m of the study site boundary					
1. Historical Industrial Sites	on-site	0-50	51-250	251-500	501-1000	1000-1500
1.1 Potentially Contaminative Past Land Use (1:1,250 & 1:2,500)						
Records of Historical Industrial Sites	82	161	368	-	-	-
1.2 Potentially Contaminative Past Land Use (1:10,000)						
Records of potentially contaminative past land use	18	23	41	-	-	-
1.3 Potentially Infilled Land (1:10,000)	0	0	1*	-	-	-
*51-100m						
2. Environmental Permits, Incidents and Registers	on-site	0-50	51-250	251-500	501-1000	1000-1500
2.1 Industrial Sites Holding Environmental Permits and/or Authorisations						
Records of historic IPC Authorisations	0	0	8	0	-	-
Records of Part A(1) Authorised Activities	0	0	6	0	-	-
Records of Water Industry Referrals (potentially harmful discharges to the public sewer)	0	0	0	0	-	-
Records of Red List Discharge Consents (potentially harmful discharges to controlled waters)	0	0	0	0	-	-
Records of List 1 Dangerous Substances Inventory sites	0	0	0	1	-	-
Records of List 2 Dangerous Substances Inventory sites	0	0	0	0	-	-
Records of Part A(2) and Part B Activities and Enforcements	0	0	5	1	-	-
Records of Category 3 or 4 Radioactive Substances Authorisations	0	0	16	0	-	-
Records of Licensed Discharge Consents	0	0	0	1	-	-
Records of Planning Hazardous Substance Consents and Enforcements	0	0	0	1	-	-
2.2 Records of COMAH and NIHS sites	0	0	1	0	-	-
2.3 Environment Agency Recorded Pollution Incidents						
National Incidents Recording System, List 2	0	0	2	-	-	-
National Incidents Recording System, List 1	0	0	0	-	-	-
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990	0	0	0	0	-	-
3. Landfill and Other Waste Sites	on-site	0-50	51-250	251-500	501-1000	1000-1500
3.1 Landfill Sites						
Environment Agency Registered Landfill Sites	0	0	0	0	0	-
Environment Agency Historic Landfill Sites	0	0	0	0	1	3
BGS/DoE Landfill Site Survey	0	0	0	0	0	0
Landfills from Local Authority and Historical Mapping Records	0	0	0	0	0	0

3.2 Landfill and Other Waste Sites Findings

Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	0	0	2	-	-
Environment Agency licensed Waste Sites	0	0	0	1	3	3

4. Current Land Uses

	on-site	0-50	51-250	251-500	501-1000	1000-1500
4.1 Current Industrial Sites Data	6	8	75	-	-	-
4.2 Records of Petrol and Fuel Sites	0	0	2	0	-	-
4.3 National Grid High Voltage Underground Electricity Transmission Cables	0	0	0	0	-	-
4.4 National Grid High Pressure Gas Transmission Pipelines	0	0	0	0		

5. Geology

Description

- 5.1 Are there any records of Artificial Ground and Made Ground present beneath the study site? *
- 5.2 Are there any records of Superficial Ground and Drift Geology present beneath the study site? *
- 5.3 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.
- Source: Scale: 1:50,000 BGS Sheet 239

* This includes an automatically generated 50m buffer zone around the site.

6. Hydrogeology and Hydrology

on-site 0-50 51-250 251-500 501-1000 1001-2000*

- 6.1 Are there any records of Productive Strata in the Superficial Geology within 500m of the study site? Yes
- 6.2 Are there any records of Productive Strata in the Bedrock Geology within 500m of the study site? Yes
- 6.3 Groundwater Abstraction Licences (within 1000m of the study site). 0 0 1 0 0 -
- 6.4 Surface Water Abstraction Licences (within 1000m of the study site). 0 0 0 0 0 -
- 6.5 Potable Water Abstraction Licences (within 2000m of the study site). 0 0 0 0 0 0
- 6.6 Are there any Source Protection Zones within 500m of the study site? Yes
- 6.7 Are there any Source Protection Zones within the Confined Aquifer within 500m of the study site? No
- 6.8 River Quality
- | | on-site | 0-50 | 51-250 | 251-500 | 501-1000 | 1001-1500 |
|--|---------|------|--------|---------|----------|-----------|
| Is there any Environment Agency information on river quality within 1500m of the study site? | No | No | No | No | No | No |
- 6.9 Detailed River Network entries within 500m of the site 0 0 0 0 - -

6.10 Surface water features within 250m of the study site	No	Yes	No	-	-	-
---	----	-----	----	---	---	---

7. Flooding

7.1 Are there any Environment Agency Zone 2 floodplains within 250m of the study site?	No
7.2 Are there any Environment Agency Zone 3 floodplains within 250m of the study site?	No
7.3 Are there any Flood Defences within 250m of the study site?	No
7.4 Are there any areas benefiting from Flood Defences within 250m of the study site?	No
7.5 Are there any Proposed Flood Defences within 250m of the study site?	No
7.6 Are there any areas used for Flood Storage within 250m of the study site?	No
7.7 What is the Risk of Flooding from Rivers and the Sea (RoFRaS) Flood Rating for the study site?	Very Low
7.8 Has the site been subject to past flooding as recorded by the Environment Agency?	No
7.9 Is the site or any area within 50m at risk of Surface Water (Pluvial) Flooding?	Yes
7.10 What is the maximum BGS Groundwater Flooding susceptibility within 50m of the study site?	Limited potential
7.11 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?	High
7.12 Are there any geological indicators of historic flooding within 250m of the study site?	No
7.13 Is the property located in an area identified as being at potential risk in the event of a reservoir failure?	No

8. Designated Environmentally Sensitive Sites

	on-site	0-50	51-250	251-500	501-1000	1001-2000
8.1 Records of Sites of Special Scientific Interest (SSSI)	0	0	0	0	2	1
8.2 Records of National Nature Reserves (NNR)	0	0	0	0	0	0
8.3 Records of Local Nature Reserves (LNR)	0	0	0	0	1	2
8.4 Records of Special Areas of Conservation (SAC)	0	0	0	0	0	0
8.5 Records of Special Protection Areas (SPA)	0	0	0	0	0	0
8.6 Records of Ramsar sites	0	0	0	0	0	0
8.7 Records of World Heritage Sites	0	0	0	0	0	0
8.8 Records of Environmentally Sensitive Areas	0	0	0	0	0	0
8.9 Records of Areas of Outstanding Natural Beauty (AONB)	0	0	0	0	0	0
8.10 Records of National Parks	0	0	0	0	0	0
8.11 Records of Green Belt land	0	0	0	0	0	0

9. Additional Information

	on-site	0-50	51-250	250-500
9.1 Ofcom Sitefinder Mobile Phone Mast Records	0	0	7	10
9.2 Mobile Phone Mast Planning Records	0	0	1	2
9.3 Records of overhead transmission lines in proximity to the study site	0	0	0	0

10. Natural Hazards

10.1 What is the maximum risk of natural ground subsidence?	Low
10.2 Is the property in a radon Affected Area as defined by Public Health England (PHE) and if so what percentage of homes are above the Action Level?	The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level
Is the property in an area where radon protection measures are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?	No radon protective measures are necessary

11. Mining

11.1 Are there any coal mining areas within 75m of the study site?	No
11.2 Are there any Non-Coal Mining areas within 50m of the study site boundary?	Yes
11.3 Are there any brine affected areas within 75m of the study site?	No

Using this Report

The following report is designed by Environmental Consultants for Environmental Professionals bringing together the most up-to-date market leading environmental data. This report is provided under and subject to the Terms & Conditions agreed between Groundsure and the Client. The document contains the following sections:

1. Historical Industrial Sites

Provides information on past land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. This search is conducted using radii of up to 250m.

2. Environmental Permits, Incidents and Registers

Provides information on Regulated Industrial Activities and Pollution Incidents as recorded by Regulatory Authorities, and sites determined as Contaminated Land. This search is conducted using radii up to 500m.

3. Landfills and Other Waste Sites

Provides information on landfills and other waste sites that may pose a risk to the study site. This search is conducted using radii up to 1500m.

4. Current Land Uses

Provides information on current land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. These searches are conducted using radii of up to 500m. This includes information on potentially contaminative industrial sites, petrol stations and fuel sites as well as high pressure underground oil and gas pipelines.

5. Geology

Provides information on artificial and superficial deposits and bedrock beneath the study site.

6. Hydrogeology and Hydrology

Provides information on groundwater vulnerability, soil leaching potential, abstraction licenses, Source Protection Zones (SPZ) and river quality. These searches are conducted using radii of up to 2000m.

7. Flooding

Provides information on tidal/fluviat flooding, historic flood events, surface water (pluvial) flooding, flood defences, flood storage areas and groundwater flood areas. This search is conducted using radii of up to 250m.

8. Designated Environmentally Sensitive Sites

Provides information on the Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, Local Nature Reserves (LNR), Areas of Outstanding Natural Beauty (AONB), National Parks (NP), Environmentally Sensitive Areas and World Heritage Sites. These searches are conducted using radii of up to 2000m.

9. Additional Information

Provides information on records of mobile phone transmitters, potential sites of OfCom telecommunication masts and overhead transmission lines up to 500m.

10. Natural Hazards

Provides information on a range of natural hazards that may pose a risk to the study site. These factors include natural ground subsidence and radon.

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11. Mining

Provides information on areas of coal mining, non-coal mining and brine extraction.

12. Contacts

This section of the report provides contact points for statutory bodies and data providers that may be able to provide further information on issues raised within this report. Alternatively, Groundsure provide a free Technical Helpline (08444 159000) for further information and guidance.

Note: Maps

Only certain features are placed on the maps within the report. All features represented on maps found within this search are given an identification number. This number identifies the feature on the mapping and correlates it to the additional information provided below. This identification number precedes all other information and takes the following format -Id: 1, Id: 2, etc. Where numerous features on the same map are in such close proximity that the numbers would obscure each other a letter identifier is used instead to represent the features. (e.g. Three features which overlap may be given the identifier "A" on the map and would be identified separately as features 1A, 3A, 10A on the data tables provided).

Where a feature is reported in the data tables to a distance greater than the map area, it is noted in the data table as "Not Shown".

All distances given in this report are in Metres (m). Directions are given as compass headings such as N: North, E: East, NE: North East from the nearest point of the study site boundary.

Groundsure Risk Assessment Methodology

Environmental Risk Framework

This report is designed to provide a basic environmental liability risk assessment for the purposes of transaction due diligence, financing arrangements and similar circumstances. The report comprises a basic risk assessment within the general principles of the contaminant-pathway-receptor pollutant linkage model and with due regard for relevant publications issued by the Department of Environment, Food and Rural Affairs (and predecessor government departments) the British Standards Institute and the European Union.

Explicit opinion is provided with regard to potential liability for the property to be identified as "Contaminated Land" in accordance with the meaning set out in Part 2A of the Environmental Protection Act 1990. Consideration and due regard is also made of associated legislation that may lead to related statutory or third party environmental liability, including but not limited to the Water Resources Act 1991, the Water Act 2014, the Contaminated Land Regulations 2006, Environmental Permitting Regulations 2010, the Environmental Damage (Prevention and Remediation) (England) (Amendment) Regulations 2015 in England and the Environmental Damage (Prevention and Remediation) (Amendment) (Wales) Regulations 2015 in Wales.

This report does not contain a detailed Conceptual Site Model as required in the National Planning Policy Framework, however, it may prove highly effective in determining whether such further assessment is appropriate.

The report is based upon the information contained in subsequent dataset sections. Some datasets have been generated by and are unique to Groundsure, whilst others are provided by recognised bodies including the Environment Agency, British Geological Survey, Public Health England, Local Authorities, etc. Groundsure may also have been provided with further details regarding the site by the client and / or his advisers. In the absence of such, Groundsure has made a best estimation regarding current and proposed land use. This report and the risk assessment presented is based purely upon this information.

In undertaking this report Groundsure has not, unless explicitly stated to the contrary, undertaken a site inspection, site investigation, consulted directly with the local authority with specific regard to the subject property or reviewed existing environmental reports. Whilst every effort is made to consider likely environmental liabilities on the basis of the information assessed, certain issues may only be readily discernible from physical site inspection and / or investigation.

Contaminant - Pathway - Receptor Definitions

Sources of contamination include:

- Historic on-site and historic off-site sources
- Current on-site and current off-site sources

Pathways comprise:

- Mechanisms facilitating "receptor" exposure to contaminative "sources"

Receptors include:

- Human health i.e. site users, adjacent site users
- Controlled Waters i.e. groundwater, surface water
- Habitats and biodiversity
- Property, buildings and infrastructure

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Environmental Risk Assessment Definitions

Acceptable Environmental Risk: Significant potential environmental liabilities have not been identified

In Need of Further Assessment: Significant potential environmental liabilities have been identified

Is there a risk of statutory (e.g. Part 2A EPA 1990) or third party action being taken against the site?

This response considers the risk of legal liability arising through ownership or occupation and use of the property through statutory or other third party claims.

Does the property represent Acceptable Banking Security from an environmental risk perspective?

Consideration is given to the suitability of the property as robust financial security for the purposes of secured lending facilities. An assumption is made here that the subject property is being considered in isolation and that normal commercial lending loan to value ratios are being considered.

Groundsure may in certain circumstances be able to make a specific lender liability assessment based on a full view of financial arrangements and hence the commercial context of the environmental risks.

Is there a risk that the property value may be impacted due to environmental liability issues?

This response sets out to advise whether environmental liabilities are likely to materially impact upon a standard Royal Institution of Chartered Surveyors valuation of the property necessitating further assessment.

What is the potential for environmental risk associated with property ownership i.e. that a prudent purchaser may wish to consider further?

Low: There are unlikely to be significant environmental liabilities associated with the property

Low-Moderate: There are unlikely to be significant environmental liabilities associated with the property with regard to the proposed use. However, minor issues may require further consideration and assessment under certain circumstances e.g. redevelopment

Moderate: Some potential environmental liabilities are likely to reside with the property as a result of historical and / or current use. Whilst unlikely to represent an immediate significant issue, if left unchecked this position may change with time. A prudent purchaser may wish to make further enquiries of the vendor / undertake limited further due diligence / seek environmental improvements. Redevelopment of the site will likely require further, more detailed assessment.

Moderate-High: Some potential significant environmental liability issues have been identified at the property requiring further assessment. Should further information be available it may be possible to re-assess the risk. In the absence of sufficient further information, further assessment might comprise consultation with the environmental regulators / review of existing environmental reports / commissioning new environmental reports / consideration of environmental insurance.

High: Significant potential environmental liabilities have been identified at the property. Further detailed environmental due diligence will likely be required and may include review of existing environmental reports / commissioning new environmental reports including site investigations / consideration of environmental insurance / transaction restructuring.

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Environmental Damage (Prevention and Remediation) Regulations 2015

The Environmental Damage (Prevention and Remediation) (England) (Amendment) Regulations 2015, the Environmental Damage (Prevention and Remediation) (Amendment) (Wales) Regulations 2015 and the Environmental Liability (Scotland) Amendment Regulations 2015 came into force on 19th July 2015, and amend the Environmental Damage (Prevention and Remediation) Regulations 2009, which came into force in England on 1st March 2009, in Wales on 6th May 2009 and in Scotland on 24th June 2009. These regulations implement the European Directive on Environmental Liability (2004/35/EC) and are aimed at ensuring responsible parties prevent and remedy environmental damage to the following receptors:

- Sites of Special Scientific Interest (SSSIs), other protected habitats and protected species
- Surface waters
- Groundwater
- Land, if contamination of the land results in a significant risk of adverse effects on human health

The regulations are based on the 'polluter pays' principle and ensures that those responsible for causing environmental damage are those responsible for paying to prevent and remedy such damage. 'Environmental Damage' has a specific meaning within the Regulations, and covers only the most serious cases. For damage to SSSIs, EU protected species and habitats and damage to water, primary remediation, complementary remediation and compensatory remediation may be required by the enforcing authorities (The Environment Agency, Scottish Environment Protection Agency (SEPA), Local Authorities, the Marine Fisheries Agency, Marine Scotland, Welsh Ministers and Natural England/Natural Resources Wales/Scottish Natural Heritage).

The regulations apply on land in England, Wales and Scotland, 1 nautical mile seaward from the baseline (in relation to water damage), on the seabed around the UK up to the limits set out in the Continental Shelf Act 1964, and to waters in the Renewable Energy Zone, which extends approximately 200 miles out to sea (in relation to protected species and natural habitats).

These regulations are designed to work in tandem with Part 2A of the Environmental Protection Act, and only apply to environmental damage caused after the Regulations came into force. Groundsure's assessment of the site is not an assessment of the potential for Environmental Damage to occur at the site, but is an assessment of the sensitivity of the site in relation to relevant receptors.

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Flood Risk Framework

The Flood Risk Assessment section is based on datasets covering a variety of different flooding types. No inspection of the property or of the surrounding area has been undertaken by Groundsure or the data providers. The modelling of flood hazards is extremely complex and in creating a national dataset certain assumptions have been made and all such datasets will have limitations. These datasets should be used to give an indication of relative flood risk rather than a definitive answer. Local actions and minor variations, such as blocked drains or streams etc. can greatly alter the effect of flooding. A low or negligible modelled flood risk does not guarantee that flooding will not occur. Nor will a high risk mean that flooding definitely will occur. Groundsure's overall flood risk assessment takes account of the cumulative risk as assessed within the Environment Agency's RoFRaS and Flood Zone datasets, in addition to surface water (pluvial) flooding.

This report provides an overall risk ranking of flooding potential at the site as well as answering the following key questions:

Is insurance likely to be available for the property?

A number of insurance companies providing cover for flood risk use this data as the basis of their risk model, although they may also utilise additional information such as claims histories, which may further influence their decision. Where a significant risk of flooding is identified flood risk insurance may be difficult to obtain without further work being undertaken. Property owners of sites within Low and Medium risk areas are still considered to be at risk of flooding and insurance premiums may be increased as a result. Owners of properties within Low, Medium and High risk areas, as well as areas yet to receive a full assessment are advised to sign up to the Environment Agency's Flood Warning scheme. The probability estimates for Risk of Flooding from Rivers and the Sea (RoFRaS) risk bands are as follows:

- Very Low – the chance of flooding from rivers or the sea is considered to be Less than 1 in 1000 (0.1%) in any given year.
- Low – the chance of flooding from rivers or the sea is considered to be less than 1 in 100 (1%) but greater than or equal to 1 in 1000 (0.1%) in any given year.
- Medium – the chance of flooding from rivers or the sea is considered to be less than 1 in 30 (3.3%) but greater than or equal to 1 in 100 (1%) in any given year.
- High – the chance of flooding from rivers or the sea is considered to be greater than or equal to 1 in 30 (3.3%) in any given year.

What is the Environment Agency Risk of Flooding from Rivers and the Sea (RoFRaS) risk rating for the property?

This rating is based upon the highest RoFRaS risk band to be found within the site boundary. See above for an explanation of RoFRaS risk banding.

What is the highest Environment Agency Flood Zone risk at the site?

The Environment Agency estimates the annual probability of flooding from rivers and the sea as:-

- Zone 1 – little or no risk with an annual probability of flooding from rivers and the sea of less than 0.1%.
- Zone 2 – low to medium risk with an annual probability of flooding of 0.1-1.0% from rivers and 0.1-0.5% from the sea.
- Zone 3 (or Zone 3a) – high risk with an annual probability of flooding of 1.0% or greater from rivers, and 0.5% or greater from the sea.
- Zone 3b – very high risk with the site being used as part of the functional flood plain or as a Flood Storage Area.

Where the property is in an area benefiting from flood defences these may be taken into account within the flood risk assessment provided. However it should be noted that flood defences do not entirely remove the risk of flooding, as they can fail or overtop. Owners of properties within Zone 2 and Zone 3 are advised to sign up to the Environment Agency's Floodline Warning scheme.

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What is the risk of flooding from pluvial/surface water sources?

JBA Risk Management surface water flood map identifies areas likely to flood following extreme rainfall events, i.e. land naturally vulnerable to surface water or “pluvial” flooding. This data set was produced by simulating 1 in 75 year, 1 in 200 year and 1 in 1000 year rainfall events. Modern urban drainage systems are typically built to cope with rainfall events between 1 in 20 and 1 in 30 years, though older ones may even flood in a 1 in 5 year rainstorm event.

The model provides the maximum depth of flooding in each 5m “cell” of topographical mapping coverage. The maps include 7 bands indicating areas of increasing natural vulnerability to surface water flooding. These are:-

- 0.1m or greater in a 1 in 1,000 year rainfall event - Low
- Between 0.1m and 0.3m in a 1 in 200 year rainfall event – Low to Moderate
- Between 0.3m and 1.0m in a 1 in 200 year rainfall event - Moderate
- Greater than 1.0m in a 1 in 200 year rainfall event – Moderate to High
- Between 0.1m and 0.3m in a 1 in 75 year rainfall event - High
- Between 0.3m and 1.0m in a 1 in 75 year rainfall event – Significant
- Greater than 1.0m in a 1 in 75 year rainfall event – Highly Significant

If the site is to be redeveloped, will a Flood Risk Assessment be required under the National Planning Policy Framework?

The *National Planning Policy Framework* identifies the need for Flood Risk Assessments to be carried out for developments within Flood Zones. Furthermore, any development proposals comprising one hectare or above will require a brief Flood Risk Assessment, partly due to their potential to increase flood risk elsewhere through the addition of hard surfaces and the effect of new development on surface water run-off.

The Recommendations will also highlight whether the site has been subject to an historic flood event as recorded by the Environment Agency. Furthermore, the recommendations will indicate whether the site is considered to lie within an area which may be susceptible to groundwater flooding. However, information regarding groundwater flooding susceptibility is not used to calculate the overall flood risk to the property due to the limitations of the database. Additionally, the flood risk assessment does not take account of flooding from sources such as burst water mains, blocked sewers or appliance failure

1. Historical Industrial Sites



Historical Industrial Sites Legend

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If you would like any further assistance regarding this report then please contact TM Group on (T) 0844 249 9202, email: helpdesk@tmgroup.co.uk

1. Historical Industrial Sites

1.1 Potentially contaminative uses identified from High Detail (1:1,250 & 1:2,500 scale) mapping

Analysis of data extracted from historical mapping at 1:1,250 & 1:2,500 scale mapping reveals the following information:

Records of sites with a potentially contaminative past land use within 250m of the study site : 611

The following records of sites with a potentially contaminative past land use are represented on the Historical Industrial Sites map:

ID	Distance [m]	Direction	Use	Date	Scale
1	0.0	On Site	Railway Building	1960	1:1250
2G	0.0	On Site	Railway Building	1960	1:1250
3	0.0	On Site	Unspecified Works	1960	1:1250
4B	0.0	On Site	Chimney	1993	1:1250
5	0.0	On Site	Unspecified Factory	1994	1:1250
6D	0.0	On Site	Unspecified Factory	1961	1:1250
7C	0.0	On Site	Tanks	1938	1:2500
8O	0.0	On Site	Railway Sidings	1961	1:1250
9A	0.0	On Site	Cereals Manufactory	1938	1:2500
10A	0.0	On Site	Unspecified Factory	1960	1:1250
11	0.0	On Site	Unspecified Factory	1993	1:1250
12B	0.0	On Site	Chimney	1938	1:2500
13B	0.0	On Site	Unspecified Tank	1938	1:2500
14C	0.0	On Site	Railway Sidings	1986	1:1250
15D	0.0	On Site	Unspecified Factory	1986	1:1250
16E	0.0	On Site	Unspecified Works	1993	1:1250
17E	0.0	On Site	Unspecified Factory	1960	1:1250
18J	0.0	On Site	Unspecified Factory	1991	1:1250
19L	0.0	On Site	Unspecified Tank	1991	1:1250
20I	0.0	On Site	Unspecified Factory	1991	1:1250
21F	0.0	On Site	Unspecified Works	1991	1:1250
22F	0.0	On Site	Electricity Substation	1993	1:1250
23E	0.0	On Site	Unspecified Works	1991	1:1250
24A	0.0	On Site	Unspecified Factory	1991	1:1250
25K	0.0	On Site	Unspecified Factory	1991	1:1250
26G	0.0	On Site	Unspecified Commercial/Industrial	1986	1:1250
27H	0.0	On Site	Railway Sidings	1991	1:1250
28H	0.0	On Site	Railway Sidings	1986	1:1250
29B	0.0	On Site	Chimney	1986	1:1250
30B	0.0	On Site	Chimney	1991	1:1250
31A	0.0	On Site	Unspecified Factory	1986	1:1250
32C	0.0	On Site	Railway Sidings	1992	1:1250
33C	0.0	On Site	Railway Sidings	1971	1:1250
34D	0.0	On Site	Unspecified Factory	1992	1:1250
35D	0.0	On Site	Biscuit Factory	1971	1:1250
36A	0.0	On Site	Unspecified Factory	1993	1:1250
37I	0.0	On Site	Unspecified Factory	1993	1:1250
38F	0.0	On Site	Electricity Substation	1993	1:1250
39J	0.0	On Site	Unspecified Factory	1993	1:1250
40B	0.0	On Site	Chimney	1993	1:1250
41K	0.0	On Site	Unspecified Factory	1993	1:1250
42L	0.0	On Site	Unspecified Tank	1993	1:1250
43E	0.0	On Site	Unspecified Works	1993	1:1250
44	0.0	On Site	Railway	1898	Unknown
45	0.0	On Site	Railway	1938	Unknown
46	0.0	On Site	Railway	1923	Unknown
47	0.0	On Site	Railway	1938	Unknown
48M	0.0	On Site	Railway Sidings	1938	1:2500
49N	0.0	On Site	Freight Terminal	1986	1:1250
50M	0.0	On Site	Railway Sidings	1960	1:1250
51N	0.0	On Site	Coal Yard	1960	1:1250
52E	0.0	On Site	Unspecified Works	1986	1:1250
53K	0.0	On Site	Film Studios	1938	1:2500
54K	0.0	On Site	Unspecified Factory	1960	1:1250
55K	0.0	On Site	Unspecified Factory	1993	1:1250
56K	0.0	On Site	Unspecified Factory	1986	1:1250
57	0.0	On Site	Sawmills	1938	Unknown
58F	0.0	On Site	Electric Heaters Manufactory	1938	1:2500
59F	0.0	On Site	Electric Heaters Manufactory	1938	Unknown
60J	0.0	On Site	Unspecified Factory	1993	1:1250
61J	0.0	On Site	Unspecified Factory	1960	1:1250
62J	0.0	On Site	Unspecified Factory	1986	1:1250
63L	0.0	On Site	Unspecified Tank	1986	1:1250

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64I	0.0	On Site	Unspecified Factory	1993	1:1250
65L	0.0	On Site	Unspecified Tank	1993	1:1250
66I	0.0	On Site	Unspecified Factory	1960	1:1250
67I	0.0	On Site	Unspecified Factory	1986	1:1250
68A	0.0	On Site	Unspecified Manufactory	1938	Unknown
69F	0.0	On Site	Unspecified Works	1986	1:1250
70	0.0	On Site	Cereals Factory	1938	Unknown
71F	0.0	On Site	Unspecified Works	1960	1:1250
72B	0.0	On Site	Chimney	1938	Unknown
73B	0.0	On Site	Chimney	1938	Unknown
74O	0.0	On Site	Unspecified Tanks	1938	Unknown
75C	0.0	On Site	Unspecified Tanks	1938	Unknown
76P	0.0	W	Railway Sidings	1961	1:1250
77P	0.0	W	Railway Sidings	1971	1:1250
78	0.0	S	Unspecified Commercial/Industrial	1938	Unknown
79E	0.0	S	Chemical Products Manufactory	1938	1:2500
80S	0.0	W	Unspecified Commercial/Industrial	1993	1:1250
81Q	0.0	S	Electricity Substation	1993	1:1250
82Q	0.0	S	Electricity Substation	1993	1:1250
83Q	1.0	S	Unspecified Tank	1991	1:1250
84	1.0	W	Railway Sidings	1986	1:1250
85R	2.0	W	Warehouse	1993	1:1250
86R	2.0	W	Warehouse	1993	1:1250
87S	4.0	W	Railway Sidings	1986	1:1250
88S	5.0	W	Railway Sidings	1993	1:1250
89T	6.0	W	Unspecified Works	1980	1:1250
90	6.0	W	Coal Yard	1970	1:2500
91T	6.0	W	Unspecified Works	1993	1:1250
92T	6.0	W	Unspecified Works	1991	1:1250
93T	6.0	W	Unspecified Works	1986	1:1250
94S	7.0	W	Railway Building	1991	1:1250
95U	7.0	NW	Railway	1898	Unknown
96U	7.0	NW	Railway	1881	Unknown
97V	8.0	W	Goods Shed	1938	Unknown
98X	8.0	W	Railway	1923	Unknown
99V	8.0	W	Goods Shed	1960	1:1250
100V	9.0	W	Goods Shed	1938	1:2500
101V	10.0	W	Railway Sidings	1991	1:1250
102AN	10.0	W	Freight Terminal	1993	1:1250
103W	11.0	W	Freight Terminal	1991	1:1250
104W	11.0	W	Freight Terminal	1986	1:1250
105X	11.0	W	Railway	1881	Unknown
106	11.0	W	Railway Sidings	1993	1:1250
107Y	12.0	E	Unspecified Commercial/Industrial	1991	1:1250
108Y	12.0	E	Unspecified Commercial/Industrial	1986	1:1250
109AE	14.0	E	Unspecified Manufactory	1938	Unknown
110AD	14.0	E	Wireless Sets Manufactory	1938	1:2500
111	15.0	S	Electricity Substation	1991	1:1250
112Z	15.0	E	Confectionery Manufactory	1938	1:2500
113AC	16.0	N	Engineering Works	1938	1:2500
114Z	16.0	E	Unspecified Commercial/Industrial	1960	1:1250
115	16.0	E	Unspecified Commercial/Industrial	1991	1:1250
116AB	16.0	W	Railway Station	1938	Unknown
117Z	17.0	E	Unspecified Manufactory	1938	Unknown
118AA	17.0	W	Unspecified Tank	1993	1:1250
119BA	17.0	W	Railway Station	1960	1:1250
120AA	17.0	W	Unspecified Tank	1980	1:1250
121AA	17.0	W	Unspecified Tank	1991	1:1250
122AA	17.0	W	Unspecified Tank	1986	1:1250
123AH	17.0	E	Unspecified Works	1992	1:1250
124	18.0	N	Unspecified Depot	1992	1:1250
125AB	19.0	W	Railway Station	1938	1:2500
126AC	20.0	N	Engineering Works	1938	Unknown
127AD	20.0	E	Unspecified Works	1960	1:1250
128AF	20.0	E	Laundry	1938	1:2500
129AG	20.0	E	Locks Manufactory	1938	1:2500
130AD	20.0	E	Wireless Sets Manufactory	1938	Unknown
131AE	21.0	E	Confectionery Manufactory	1938	1:2500
132V	21.0	W	Unspecified Commercial/Industrial	1980	1:1250
133AF	21.0	E	Laundry	1960	1:1250
134V	21.0	W	Railway Buildings	1970	1:2500
135V	21.0	W	Goods Shed	1965	1:1250
136V	21.0	W	Goods Shed	1961	1:1250
137AC	21.0	N	Engineering Works	1971	1:1250
138AC	21.0	N	Unspecified Works	1961	1:1250
139AG	21.0	E	Unspecified Manufactory	1938	Unknown
140AK	21.0	E	Unspecified Works	1986	1:1250
141AH	22.0	E	Laundry	1961	1:1250
142AH	22.0	E	Unspecified Works	1986	1:1250

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143AH	22.0	E	Unspecified Works	1971	1:1250
144AF	22.0	E	Unspecified Works	1991	1:1250
145AF	22.0	E	Unspecified Works	1986	1:1250
146AI	22.0	E	Unspecified Works	1960	1:1250
147AD	22.0	E	Unspecified Works	1986	1:1250
148AG	22.0	E	Unspecified Works	1960	1:1250
149AJ	22.0	E	Unspecified Works	1960	1:1250
150AI	22.0	E	Unspecified Works	1986	1:1250
151AJ	23.0	E	Unspecified Works	1986	1:1250
152AM	23.0	E	Unspecified Works	1960	1:1250
153	23.0	E	Unspecified Works	1960	1:1250
154AE	23.0	E	Unspecified Factory	1960	1:1250
155AG	23.0	E	Unspecified Works	1986	1:1250
156AK	23.0	E	Warehouse	1960	1:1250
157	23.0	E	Warehouse	1960	1:1250
158AL	23.0	E	Unspecified Works	1960	1:1250
159AL	23.0	E	Unspecified Commercial/Industrial	1960	1:1250
160AG	23.0	E	Unspecified Works	1986	1:1250
161	23.0	E	Unspecified Works	1960	1:1250
162	23.0	E	Unspecified Factory	1960	1:1250
163AE	23.0	E	Unspecified Works	1991	1:1250
164AE	23.0	E	Unspecified Works	1986	1:1250
165Y	23.0	E	Unspecified Depot	1960	1:1250
166AK	23.0	E	Unspecified Commercial/Industrial	1991	1:1250
167AO	23.0	SW	Goods Shed	1991	1:1250
168AF	23.0	E	Laundry	1938	Unknown
169AM	23.0	E	Warehouse	1991	1:1250
170AM	23.0	E	Warehouse	1986	1:1250
171AB	23.0	W	Railway Station	1970	1:2500
172W	23.0	W	Railway Sidings	1991	1:1250
173W	23.0	W	Railway Sidings	1986	1:1250
174AL	24.0	E	Unspecified Works	1991	1:1250
175AL	24.0	E	Unspecified Works	1986	1:1250
176AB	24.0	W	Railway Station	1961	1:1250
177AB	24.0	W	Railway Station	1965	1:1250
178AB	24.0	W	Railway Station	1980	1:1250
179AB	24.0	W	Railway Station	1993	1:1250
180AB	24.0	W	Railway Station	1986	1:1250
181AG	25.0	E	Unspecified Manufactory	1938	Unknown
182AN	25.0	W	Coal Yard	1961	1:1250
183AN	25.0	W	Coal Yard	1965	1:1250
184AP	25.0	W	Railway Sidings	1993	1:1250
185AO	26.0	SW	Goods Shed	1993	1:1250
186W	26.0	SW	Railway Sidings	1970	1:2500
187AJ	26.0	E	Electricity Substations	1993	1:1250
188AJ	26.0	E	Electricity Substations	1993	1:1250
189AO	26.0	SW	Goods Shed	1991	1:1250
190AP	27.0	SW	Railway Sidings	1961	1:1250
191AP	27.0	SW	Railway Sidings	1965	1:1250
192AQ	27.0	N	Electricity Substation	1986	1:1250
193AQ	27.0	N	Electricity Substation	1971	1:1250
194AQ	27.0	N	Electricity Substation	1994	1:1250
195AQ	27.0	N	Electricity Substation	1992	1:1250
196AJ	27.0	E	Electricity Substation	1991	1:1250
197AR	31.0	N	Warehouse	1986	1:1250
198AR	31.0	N	Warehouse	1992	1:1250
199BR	32.0	N	Warehouse	1994	1:1250
200AS	33.0	W	Railway Sidings	1961	1:1250
201AS	33.0	W	Railway Sidings	1971	1:1250
202	36.0	N	Railway Sidings	1992	1:1250
203CD	36.0	NE	Iron Foundry	1938	1:2500
204AT	37.0	W	Railway Sidings	1965	1:1250
205AT	37.0	W	Railway Sidings	1980	1:1250
206AT	37.0	W	Railway Sidings	1961	1:1250
207AT	37.0	W	Railway Sidings	1970	1:2500
208AU	38.0	S	Silk Manufactory	1938	1:2500
209AU	38.0	S	Unspecified Works	1960	1:1250
210AU	39.0	S	Unspecified Works	1991	1:1250
211AU	39.0	S	Unspecified Works	1986	1:1250
212AU	40.0	S	Unspecified Manufactory	1938	Unknown
213AV	40.0	NE	Unspecified Works	1961	1:1250
214AV	40.0	NE	Iron Foundry	1971	1:1250
215AV	40.0	NE	Unspecified Works	1994	1:1250
216	41.0	W	Railway Station	1938	Unknown
217AV	41.0	NE	Unspecified Works	1986	1:1250
218AV	41.0	NE	Unspecified Works	1992	1:1250
219AP	42.0	SW	Railway Sidings	1980	1:1250
220AG	43.0	E	Laboratory	1938	1:2500
221	43.0	N	Railway Sidings	1938	1:2500

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222AG	44.0	E	Unspecified Manufactory	1938	Unknown
223	45.0	N	Coal Yard	1961	1:1250
224	46.0	NW	Railway Station	1923	1:2500
225	47.0	N	Railway Sidings	1961	1:1250
226AX	47.0	E	Unspecified Laboratory	1938	Unknown
227AY	47.0	N	Warehouse	1992	1:1250
228AW	48.0	N	Unspecified Tank	1986	1:1250
229	48.0	W	Railway Buildings	1943	Unknown
230AW	48.0	N	Unspecified Tank	1992	1:1250
231BD	49.0	NW	Railway Station	1923	Unknown
232AZ	49.0	N	Unspecified Tank	1992	1:1250
233AX	49.0	E	Unspecified Works	1960	1:1250
234AY	49.0	N	Warehouse	1986	1:1250
235AY	49.0	N	Warehouse	1971	1:1250
236AZ	49.0	N	Unspecified Tank	1986	1:1250
237AJ	49.0	E	Unspecified Works	1986	1:1250
238AE	50.0	E	Unspecified Tank	1991	1:1250
239AE	50.0	E	Unspecified Tank	1986	1:1250
240BA	50.0	W	Railway Buildings	1898	Unknown
241AW	50.0	N	Unspecified Tank	1994	1:1250
242	50.0	E	Unspecified Commercial/Industrial	1960	1:1250
243BQ	50.0	E	Unspecified Commercial/Industrial	1960	1:1250
244AZ	51.0	N	Unspecified Tank	1994	1:1250
245BB	51.0	E	Unspecified Factory	1960	1:1250
246AY	51.0	N	Warehouse	1994	1:1250
247BB	51.0	E	Unspecified Works	1991	1:1250
248BB	51.0	E	Unspecified Works	1986	1:1250
249BC	51.0	E	Unspecified Works	1991	1:1250
250BC	51.0	E	Garage	1986	1:1250
251AF	51.0	E	Unspecified Tank	1986	1:1250
252BD	52.0	NW	Railway Sidings	1986	1:1250
253BD	53.0	NW	Railway Sidings	1992	1:1250
254	53.0	NW	Railway Sidings	1994	1:1250
255	54.0	S	Railway Sidings	1986	1:1250
256AX	54.0	E	Unspecified Works	1986	1:1250
257BE	57.0	N	Warehouse	1992	1:1250
258BE	57.0	N	Warehouse	1986	1:1250
259BG	57.0	E	Unspecified Commercial/Industrial	1938	1:2500
260BF	58.0	E	Unspecified Tank	1991	1:1250
261BF	58.0	E	Unspecified Tank	1986	1:1250
262BG	58.0	E	Builder's Yard	1986	1:1250
263BG	59.0	E	Builder's Yard	1960	1:1250
264BG	60.0	E	Unspecified Commercial/Industrial	1938	Unknown
265BH	60.0	SW	Unspecified Tank	1980	1:1250
266AF	60.0	E	Unspecified Tank	1986	1:1250
267BH	60.0	SW	Unspecified Tank	1991	1:1250
268BH	60.0	SW	Unspecified Tank	1986	1:1250
269BH	60.0	SW	Unspecified Tank	1993	1:1250
270AE	61.0	E	Unspecified Works	1960	1:1250
271AE	61.0	E	Unspecified Works	1991	1:1250
272AE	61.0	E	Unspecified Works	1986	1:1250
273T	63.0	SW	Unspecified Tank	1980	1:1250
274BC	63.0	E	Unspecified Depot	1960	1:1250
275BO	68.0	S	Unspecified Tank	1960	1:1250
276BI	70.0	W	Bus Station	1992	1:1250
277BI	71.0	W	Bus Station	1993	1:1250
278BJ	72.0	S	Unspecified Works	1991	1:1250
279BJ	72.0	S	Unspecified Works	1986	1:1250
280BJ	72.0	S	Unspecified Factory	1960	1:1250
281BJ	73.0	S	Confectionery Manufactory	1938	1:2500
282BJ	75.0	S	Unspecified Manufactory	1938	Unknown
283BK	75.0	S	Unspecified Commercial/Industrial	1938	1:2500
284BK	76.0	S	Unspecified Commercial/Industrial	1938	Unknown
285BL	77.0	S	Unspecified Commercial/Industrial	1970	1:2500
286BL	77.0	S	Railway Sidings	1970	1:2500
287BM	79.0	NE	Ground Workings	1986	1:1250
288BN	79.0	E	Corsets Manufactory	1938	1:2500
289BM	79.0	NE	Ground Workings	1992	1:1250
290	81.0	N	Unspecified Tank	1971	1:1250
291BN	81.0	E	Unspecified Manufactory	1938	Unknown
292BN	81.0	E	Unspecified Works	1960	1:1250
293BN	81.0	E	Unspecified Works	1986	1:1250
294BN	82.0	E	Unspecified Manufactory	1938	Unknown
295BO	83.0	S	Unspecified Tank	1991	1:1250
296BO	83.0	S	Unspecified Tank	1986	1:1250
297BP	83.0	S	Tanks	1993	1:1250
298BO	83.0	S	Unspecified Tank	1993	1:1250
299BO	83.0	S	Unspecified Tank	1993	1:1250
300BP	83.0	S	Tanks	1991	1:1250

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301BP	83.0	S	Tanks	1986	1:1250
302BP	83.0	S	Tanks	1980	1:1250
303BQ	85.0	E	Clay Pit	1881	1:2500
304BT	87.0	E	Unspecified Commercial/Industrial	1993	1:1250
305BS	87.0	E	Bakery	1971	1:1250
306BR	87.0	N	Railway Sidings	1971	1:1250
307BS	87.0	E	Warehouse	1986	1:1250
308BS	87.0	E	Warehouse	1992	1:1250
309BT	88.0	E	Unspecified Factory	1960	1:1250
310BT	88.0	E	Unspecified Factory	1991	1:1250
311BT	88.0	E	Unspecified Factory	1986	1:1250
312BP	90.0	S	Unspecified Tank	1991	1:1250
313BP	90.0	S	Unspecified Tank	1986	1:1250
314BP	90.0	S	Unspecified Tank	1993	1:1250
315BU	93.0	E	Unspecified Works	1960	1:1250
316BU	93.0	E	Unspecified Works	1986	1:1250
317BU	93.0	E	Unspecified Works	1991	1:1250
318	95.0	E	Electricity Substation	1986	1:1250
319BV	95.0	E	Unspecified Works	1960	1:1250
320BV	96.0	E	Unspecified Works	1986	1:1250
321BW	96.0	S	Unspecified Commercial/Industrial	1986	1:1250
322BW	96.0	S	Unspecified Commercial/Industrial	1985	1:1250
323BW	96.0	S	Unspecified Factory	1960	1:1250
324BW	96.0	S	Unspecified Works	1988	1:1250
325BX	97.0	S	Unspecified Works	1980	1:1250
326BX	97.0	S	Unspecified Works	1987	1:1250
327BL	97.0	S	Unspecified Commercial/Industrial	1995	1:1250
328BL	97.0	S	Unspecified Commercial/Industrial	1995	1:1250
329BL	97.0	S	Unspecified Commercial/Industrial	1994	1:1250
330BL	97.0	S	Unspecified Commercial/Industrial	1997	1:1250
331BL	97.0	S	Unspecified Commercial/Industrial	1996	1:1250
332BL	97.0	S	Unspecified Commercial/Industrial	1995	1:1250
333BL	97.0	S	Unspecified Commercial/Industrial	1974	1:1250
334BL	97.0	S	Unspecified Commercial/Industrial	1996	1:1250
335BL	97.0	S	Unspecified Tank	1980	1:1250
336BL	97.0	S	Unspecified Tank	1987	1:1250
337BX	97.0	S	Unspecified Works	1991	1:1250
338BX	97.0	S	Unspecified Works	1983	1:1250
339BL	97.0	S	Unspecified Tank	1997	1:1250
340BL	97.0	S	Unspecified Tank	1995	1:1250
341BL	97.0	S	Unspecified Tank	1995	1:1250
342BL	97.0	S	Unspecified Tank	1994	1:1250
343BL	97.0	S	Unspecified Tank	1996	1:1250
344BL	97.0	S	Unspecified Tank	1995	1:1250
345BL	97.0	S	Unspecified Tank	1974	1:1250
346BL	97.0	S	Unspecified Tank	1996	1:1250
347BL	98.0	S	Railway Sidings	1961	1:1250
348BL	98.0	S	Unspecified Tank	1991	1:1250
349BL	98.0	S	Unspecified Tank	1983	1:1250
350BX	99.0	S	Unspecified Works	1995	1:1250
351BX	99.0	S	Unspecified Works	1997	1:1250
352BX	99.0	S	Unspecified Works	1995	1:1250
353BX	99.0	S	Unspecified Works	1994	1:1250
354BX	99.0	S	Unspecified Works	1996	1:1250
355BX	99.0	S	Unspecified Works	1995	1:1250
356BX	99.0	S	Unspecified Works	1996	1:1250
357	105.0	SE	Tanks	1986	1:1250
358BT	105.0	E	Combs Manufactory	1938	1:2500
359BT	105.0	E	Unspecified Manufactory	1938	Unknown
360BV	106.0	E	Enamel Manufactory	1938	1:2500
361BV	107.0	E	Unspecified Manufactory	1938	Unknown
362BT	109.0	E	Combs Manufactory	1938	Unknown
363BV	109.0	E	Unspecified Factory	1938	Unknown
364BY	109.0	S	Unspecified Commercial/Industrial	1960	1:1250
365BY	109.0	S	Unspecified Commercial/Industrial	1988	1:1250
366BL	110.0	S	Chimney	1986	1:1250
367BL	110.0	S	Chimney	1985	1:1250
368BL	111.0	S	Chimney	1988	1:1250
369BZ	111.0	S	Unspecified Works	1960	1:1250
370BZ	113.0	S	Unspecified Factory	1988	1:1250
371CA	113.0	E	Corporation Yard	1991	1:1250
372CA	113.0	E	Corporation Yard	1986	1:1250
373CB	113.0	W	Printing Works	1943	Unknown
374BI	113.0	W	Unspecified Works	1960	1:1250
375CJ	113.0	W	Unspecified Commercial/Industrial	1938	1:2500
376	114.0	N	Railway Sidings	1971	1:1250
377CB	115.0	W	Printing Works	1938	1:2500
378CI	115.0	N	Railway Sidings	1923	1:2500
379BL	116.0	S	Unspecified Tank	1987	1:1250

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380BL	116.0	S	Unspecified Tank	1980	1:1250
381CB	116.0	W	Unspecified Works	1938	Unknown
382BL	117.0	S	Unspecified Tank	1991	1:1250
383BL	117.0	S	Unspecified Tank	1983	1:1250
384BL	117.0	S	Unspecified Tank	1995	1:1250
385BL	117.0	S	Unspecified Tank	1997	1:1250
386BL	117.0	S	Unspecified Tank	1994	1:1250
387BL	117.0	S	Unspecified Tank	1995	1:1250
388BL	117.0	S	Unspecified Tank	1996	1:1250
389BL	117.0	S	Unspecified Tank	1995	1:1250
390BL	117.0	S	Unspecified Tank	1996	1:1250
391CC	123.0	E	Electricity Substation	1993	1:1250
392CC	123.0	E	Electricity Substation	1993	1:1250
393BS	123.0	E	Railway Sidings	1938	1:2500
394CD	125.0	NE	Iron Foundry	1938	Unknown
395CE	127.0	W	Clothing Manufactory	1938	1:2500
396CF	127.0	E	Bakery	1960	1:1250
397CE	128.0	W	Clothing Factory	1938	Unknown
398CM	128.0	N	Unspecified Factory	1961	1:1250
399CE	129.0	W	Textile Manufacture and Products (Unspecified)	1943	Unknown
400CG	130.0	W	Railway Sidings	1970	1:2500
401CF	130.0	E	Warehouse	1991	1:1250
402CF	130.0	E	Warehouse	1986	1:1250
403CH	130.0	N	Railway Buildings	1986	1:1250
404CG	130.0	W	Railway Sidings	1965	1:1250
405CG	130.0	W	Railway Sidings	1961	1:1250
406CH	130.0	N	Railway Buildings	1994	1:1250
407CI	133.0	N	Railway Sidings	1898	1:2500
408CI	134.0	N	Railway Sidings	1881	1:2500
409CJ	136.0	W	Garage	1960	1:1250
410BS	139.0	E	Bakery	1961	1:1250
411CK	143.0	N	Medical Products Factory	1971	1:1250
412CK	144.0	N	Unspecified Depot	1986	1:1250
413CL	144.0	E	Unspecified Commercial/Industrial	1938	1:2500
414CL	144.0	E	Unspecified Works	1991	1:1250
415CL	144.0	E	Unspecified Works	1986	1:1250
416CL	144.0	E	Lead Mills	1938	Unknown
417CM	145.0	N	Chemicals Manufactory	1938	1:2500
418CL	145.0	E	Unspecified Mills	1938	Unknown
419CN	146.0	E	Printing Works	1938	1:2500
420CW	147.0	E	Unspecified Factory	1993	1:1250
421CN	147.0	E	Printing Works	1938	Unknown
422CM	147.0	N	Chemicals Manufactory	1938	Unknown
423CO	147.0	E	Railway Sidings	1961	1:1250
424CO	147.0	E	Railway Sidings	1971	1:1250
425CP	147.0	N	Unspecified Tank	1992	1:1250
426CN	147.0	E	Printing Works	1938	Unknown
427CR	148.0	E	Unspecified Works	1960	1:1250
428CP	148.0	N	Unspecified Tank	1986	1:1250
429CQ	148.0	N	Ground Workings	1961	1:1250
430CQ	148.0	N	Ground Workings	1971	1:1250
431	148.0	NE	Electricity Substation	1994	1:1250
432CN	148.0	E	Unspecified Works	1986	1:1250
433CP	148.0	N	Unspecified Tank	1994	1:1250
434	148.0	N	Unspecified Depot	1994	1:1250
435CL	149.0	E	Unspecified Commercial/Industrial	1960	1:1250
436CR	149.0	E	Unspecified Factory	1993	1:1250
437CN	154.0	E	Unspecified Works	1960	1:1250
438CT	155.0	N	Warehouse	1986	1:1250
439CS	157.0	N	Electricity Substation	1992	1:1250
440CS	157.0	N	Electricity Substation	1986	1:1250
441CS	157.0	N	Electricity Substation	1994	1:1250
442	158.0	N	Warehouse	1992	1:1250
443CX	159.0	E	Tanks	1971	1:1250
444CT	160.0	N	Unspecified Tank	1994	1:1250
445CV	160.0	SW	Railway	1923	Unknown
446CR	160.0	E	Lead Mills	1991	1:1250
447CR	160.0	E	Lead Mills	1986	1:1250
448CU	160.0	SW	Railway Sidings	1987	1:1250
449CU	160.0	SW	Railway Sidings	1980	1:1250
450	160.0	SW	Railway Sidings	1961	1:1250
451DC	160.0	S	Electrodes Manufactory	1938	1:2500
452CN	161.0	E	Unspecified Works	1991	1:1250
453CR	161.0	E	Lead Mills	1938	1:2500
454CV	162.0	SW	Railway	1881	Unknown
455CW	162.0	E	Unspecified Factory	1938	1:2500
456	164.0	SE	Unspecified Pit	1960	1:1250
457CW	165.0	E	Unspecified Factory	1938	Unknown

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458CW	165.0	E	Unspecified Works	1960	1:1250
459CX	166.0	NE	Tanks	1971	1:1250
460CY	166.0	W	Garage	1970	1:2500
461CY	167.0	W	Garage	1965	1:1250
462DB	167.0	E	Unspecified Commercial/Industrial	1939	1:2500
463CX	167.0	NE	Tanks	1992	1:1250
464CX	168.0	NE	Tanks	1986	1:1250
465CX	168.0	NE	Tanks	1994	1:1250
466DA	168.0	E	Unspecified Works	1960	1:1250
467DE	170.0	E	Unspecified Works	1992	1:1250
468CY	170.0	W	Garage	1961	1:1250
469CZ	170.0	E	Unspecified Commercial/Industrial	1993	1:1250
470CZ	171.0	E	Unspecified Works	1991	1:1250
471CZ	171.0	E	Unspecified Works	1986	1:1250
472CZ	171.0	E	Unspecified Works	1960	1:1250
473CW	172.0	E	Unspecified Tank	1986	1:1250
474CN	173.0	E	Unspecified Factory	1938	Unknown
475CO	173.0	NE	Tanks	1986	1:1250
476CO	173.0	NE	Tanks	1992	1:1250
477CO	174.0	NE	Tanks	1994	1:1250
478	175.0	NE	Ground Workings	1938	1:2500
479	175.0	NE	Ground Workings	1961	1:1250
480CZ	176.0	E	Chimney	1993	1:1250
481CZ	176.0	E	Chimney	1993	1:1250
482CZ	177.0	E	Chimney	1991	1:1250
483CZ	177.0	E	Chimney	1986	1:1250
484	177.0	NE	Unspecified Tank	1994	1:1250
485DY	177.0	E	Foundry	1939	1:2500
486	177.0	E	Railway Sidings	1939	1:2500
487DA	178.0	E	Unspecified Commercial/Industrial	1960	1:1250
488CU	178.0	SW	Railway Sidings	1991	1:1250
489CU	178.0	SW	Railway Sidings	1983	1:1250
490CU	179.0	SW	Railway Sidings	1994	1:1250
491CU	179.0	SW	Railway Sidings	1996	1:1250
492CU	179.0	SW	Railway Sidings	1997	1:1250
493CU	179.0	SW	Railway Sidings	1995	1:1250
494CU	179.0	SW	Railway Sidings	1995	1:1250
495CU	179.0	SW	Railway Sidings	1995	1:1250
496CU	179.0	SW	Railway Sidings	1974	1:1250
497CU	179.0	SW	Railway Sidings	1996	1:1250
498CW	181.0	E	Unspecified Works	1986	1:1250
499CO	181.0	NE	Tanks	1994	1:1250
500DB	181.0	E	Electricity Substation	1991	1:1250
501	181.0	E	Electricity Substation	1986	1:1250
502	184.0	N	Railway Building	1994	1:1250
503	184.0	E	Unspecified Factory	1939	1:2500
504DJ	185.0	E	Electric Power Station	1923	Unknown
505DD	186.0	W	Police Station	1960	1:1250
506DB	187.0	E	Electricity Substation	1993	1:1250
507DB	187.0	E	Electricity Substation	1993	1:1250
508DC	187.0	S	Electricity Substation	1988	1:1250
509DA	187.0	E	Unspecified Works	1960	1:1250
510DD	187.0	W	Police Station	1938	1:2500
511	190.0	N	Ground Workings	1994	1:1250
512DF	190.0	E	Industrial Chemical Factory	1939	1:2500
513DE	191.0	E	Paint Manufactory	1939	1:2500
514DG	191.0	NE	Ground Workings	1992	1:1250
515DF	191.0	E	Unspecified Factory	1938	1:2500
516DG	191.0	NE	Ground Workings	1994	1:1250
517DG	191.0	NE	Ground Workings	1986	1:1250
518DG	191.0	NE	Ground Workings	1971	1:1250
519CO	193.0	NE	Unspecified Tank	1992	1:1250
520DH	193.0	E	Unspecified Depot	1994	1:1250
521CO	193.0	NE	Unspecified Tank	1986	1:1250
522DF	193.0	E	Unspecified Manufactory	1938	Unknown
523DF	193.0	E	Unspecified Works	1991	1:1250
524DH	193.0	E	Unspecified Works	1986	1:1250
525CO	194.0	NE	Unspecified Tank	1994	1:1250
526DI	195.0	E	Unspecified Works	1991	1:1250
527DI	195.0	E	Unspecified Works	1986	1:1250
528DJ	198.0	E	Electric Power Station	1923	1:2500
529	200.0	N	Railway Sidings	1898	1:2500
530DI	201.0	E	Unspecified Works	1960	1:1250
531DK	201.0	E	Warehouse	1991	1:1250
532DK	201.0	E	Warehouse	1986	1:1250
533DK	201.0	E	Warehouse	1960	1:1250
534DK	201.0	E	Agricultural Tools Manufactory	1938	1:2500
535DK	203.0	E	Unspecified Commercial/Industrial	1938	Unknown
536	203.0	N	Railway	1898	Unknown

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537DB	204.0	E	Unspecified Commercial/Industrial	1960	1:1250
538DL	205.0	E	Unspecified Commercial/Industrial	1984	1:1250
539DL	205.0	E	Unspecified Commercial/Industrial	1994	1:1250
540DL	205.0	E	Unspecified Commercial/Industrial	1984	1:1250
541DL	205.0	E	Unspecified Commercial/Industrial	1990	1:1250
542DB	205.0	E	Unspecified Commercial/Industrial	1988	1:1250
543DB	205.0	E	Unspecified Commercial/Industrial	1992	1:1250
544DN	206.0	NE	Unspecified Commercial/Industrial	1939	1:2500
545DX	206.0	E	Lead Mills	1939	1:2500
546	207.0	E	Maternity Hospital	1960	1:1250
547DM	212.0	E	Unspecified Factory	1961	1:1250
548DM	212.0	E	Unspecified Works	1984	1:1250
549DL	212.0	E	Electricity Substation	1984	1:1250
550DM	212.0	E	Unspecified Depot	1994	1:1250
551DM	212.0	E	Unspecified Works	1990	1:1250
552DM	212.0	E	Unspecified Works	1984	1:1250
553DL	212.0	E	Electricity Substation	1984	1:1250
554DL	212.0	E	Electricity Substation	1990	1:1250
555DL	213.0	E	Electricity Substation	1994	1:1250
556	216.0	N	Railway	1898	Unknown
557DN	219.0	E	Unspecified Commercial/Industrial	1961	1:1250
558DP	220.0	N	Atomised Food manufactory	1938	1:2500
559DQ	221.0	NE	Unspecified Commercial/Industrial	1994	1:1250
560DO	221.0	SW	Railway Building	1983	1:1250
561DO	221.0	SW	Railway Building	1991	1:1250
562	222.0	W	Ground Workings	1970	1:2500
563DN	222.0	E	Gas Distribution Station	1994	1:1250
564DO	222.0	SW	Railway Sidings	1970	1:2500
565DN	222.0	NE	Gas Distribution Station	1984	1:1250
566DN	222.0	NE	Gas Distribution Centre	1990	1:1250
567DN	222.0	NE	Gas Distribution Centre	1984	1:1250
568DP	222.0	N	Unspecified Factory	1961	1:1250
569DQ	223.0	N	Unspecified Factory	1992	1:1250
570DQ	223.0	N	Unspecified Factory	1986	1:1250
571DP	223.0	N	Unspecified Commercial/Industrial	1971	1:1250
572DR	223.0	N	Electricity Substation	1992	1:1250
573DR	224.0	N	Electricity Substation	1986	1:1250
574DP	224.0	N	Atomised Food manufactory	1938	Unknown
575DS	224.0	NW	Fire Station	1970	1:2500
576DF	225.0	E	Lead Mills	1988	1:1250
577DF	225.0	E	Lead Mills	1992	1:1250
578DR	225.0	N	Electricity Substation	1994	1:1250
579DQ	226.0	N	Unspecified Factory	1961	1:1250
580DQ	226.0	N	Unspecified Factory	1971	1:1250
581DS	227.0	NW	Fire Station	1969	1:1250
582DS	227.0	NW	Fire Station	1960	1:1250
583DS	227.0	NW	Fire Station	1938	1:2500
584DT	227.0	NW	Electricity Substation	1993	1:1250
585DT	229.0	NW	Electricity Substation	1985	1:1250
586DT	229.0	NW	Electricity Substation	1992	1:1250
587DU	231.0	E	Electricity Substation	1993	1:1250
588DU	231.0	E	Electricity Substation	1993	1:1250
589DU	231.0	E	Electricity Substation	1991	1:1250
590DU	231.0	E	Electricity Substation	1986	1:1250
591DV	232.0	NE	Gas Holder	1994	1:1250
592DV	232.0	NE	Gasholder	1984	1:1250
593DV	232.0	NE	Gasholder	1990	1:1250
594DV	232.0	NE	Gasholder	1984	1:1250
595DW	235.0	E	Unspecified Works	1960	1:1250
596DW	235.0	E	Lead Mills	1976	1:1250
597DW	235.0	E	Unspecified Factory	1997	1:1250
598DX	237.0	E	Unspecified Works	1960	1:1250
599DX	239.0	E	Lead Mills	1988	1:1250
600DX	239.0	E	Lead Mills	1992	1:1250
601	240.0	W	Unspecified Commercial/Industrial	1938	1:2500
602DY	240.0	NE	Ground Workings	1939	1:2500
603DX	242.0	E	Lead Mills	1976	1:1250
604DZ	243.0	N	Tanks	1992	1:1250
605DZ	243.0	N	Unspecified Tank	1986	1:1250
606DZ	246.0	N	Tanks	1986	1:1250
607EA	246.0	N	Unspecified Tank	1986	1:1250
608DZ	247.0	N	Tanks	1992	1:1250
609EA	247.0	N	Unspecified Tank	1992	1:1250
610EA	248.0	N	Unspecified Tank	1994	1:1250
611DZ	248.0	N	Tanks	1986	1:1250

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1. Historical Industrial Sites

1.2 Potentially Contaminative Uses identified from High Detail (1:10,000 scale) Mapping

The systematic analysis of data extracted from standard 1:10,560 and 1:10,000 scale historical maps provides the following information:

Records of sites with a potentially contaminative past land use within 250m of the search boundary: 82

The following records are not represented on Mapping:

Distance [m]	Direction	Use	Date
0.0	On Site	Railway Station	1974
0.0	On Site	Unspecified Factory	1988
0.0	On Site	Unspecified Factory	1974
0.0	On Site	Unspecified Factory	1988
0.0	On Site	Unspecified Factory	1988
0.0	On Site	Railway Sidings	1938
0.0	On Site	Unspecified Commercial/Industrial	1946
0.0	On Site	Unspecified Commercial/Industrial	1946
0.0	On Site	Unspecified Commercial/Industrial	1938
0.0	On Site	Railway Sidings	1988
0.0	On Site	Unspecified Factory	1974
0.0	On Site	Railway Sidings	1946
0.0	On Site	Unspecified Commercial/Industrial	1946
0.0	On Site	Unspecified Factory	1974
0.0	On Site	Unspecified Commercial/Industrial	1959
0.0	On Site	Railway Sidings	1959
0.0	On Site	Railway Sidings	1974
0.0	W	Freight Terminal	1988
1.0	S	Unspecified Works	1974
7.0	W	Railway Building	1922
9.0	W	Railway Building	1988
9.0	W	Railway Building	1974
12.0	W	Railway Building	1946
14.0	W	Railway Building	1959
17.0	N	Railway Sidings	1959
17.0	N	Unspecified Works	1959
20.0	N	Engineering Works	1946
27.0	N	Unspecified Works	1938
28.0	W	Railway Station	1988
31.0	W	Railway Buildings	1881
33.0	W	Railway Station	1946
34.0	N	Railway Sidings	1946
34.0	N	Unspecified Works	1974
34.0	W	Railway Station	1959
36.0	N	Unspecified Works	1988
36.0	NE	Unspecified Works	1959
39.0	W	Railway Station	1938
39.0	NE	Iron Foundry	1946
41.0	N	Unspecified Warehouses	1988
42.0	NE	Iron Foundry	1938
47.0	W	Railway Building	1897
51.0	N	Unspecified Warehouse	1974
57.0	N	Railway Station	1922
86.0	NE	Unspecified Factory	1974
86.0	NE	Unspecified Works	1988
86.0	E	Unspecified Pit	1881
87.0	E	Bakery	1974
102.0	W	Cuttings	1881
103.0	N	Railway Sidings	1938
106.0	N	Railway Building	1959
107.0	N	Railway Building	1946
111.0	E	Railway Sidings	1959
113.0	N	Railway Sidings	1897
113.0	N	Railway Sidings	1922
122.0	SW	Railway Building	1959
127.0	N	Railway Sidings	1881
128.0	E	Railway Sidings	1946
133.0	N	Railway Buildings	1988
136.0	E	Railway Sidings	1938
146.0	N	Unspecified Factory	1974

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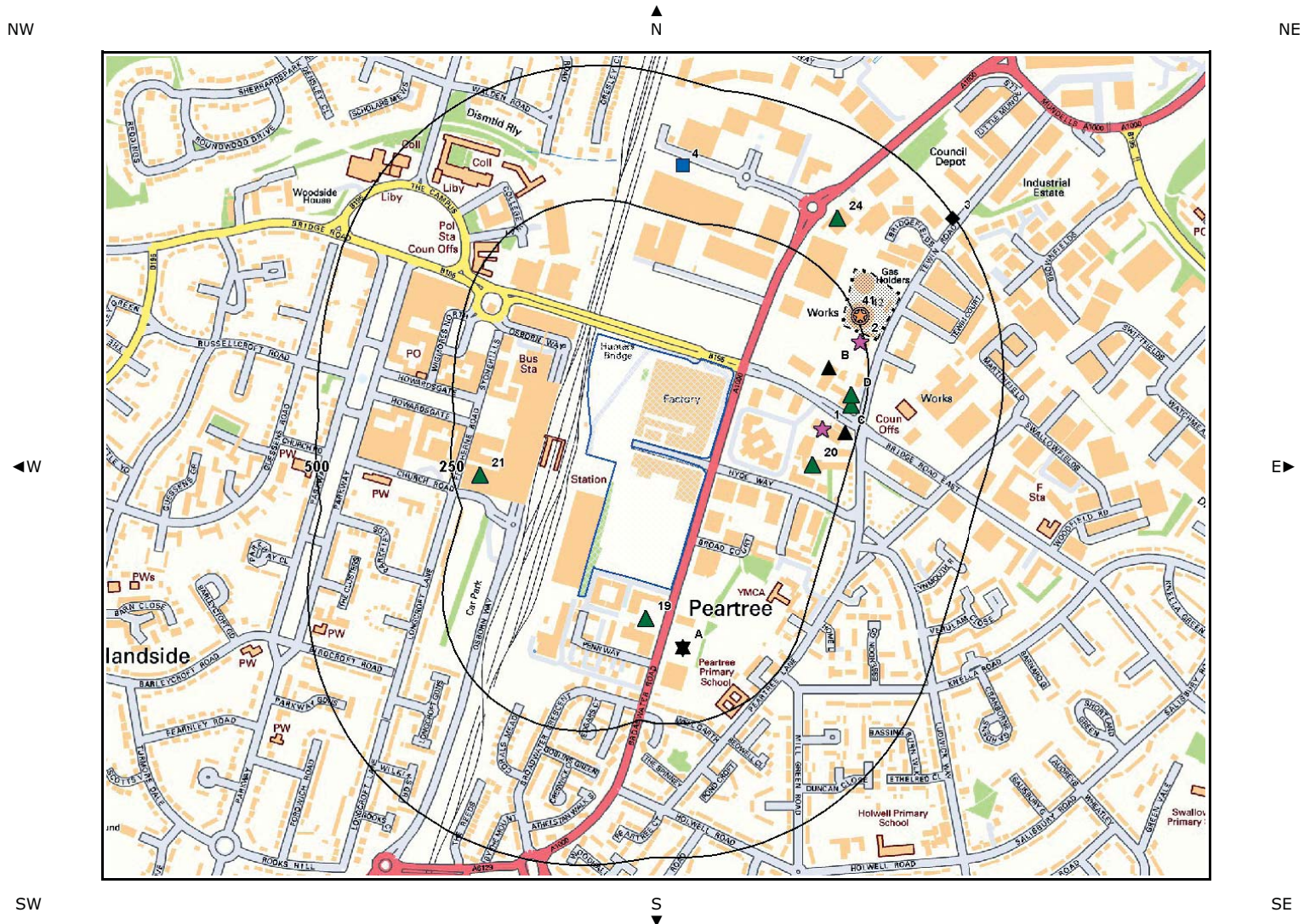
180.0	NE	Unspecified Ground Workings	1959
181.0	NE	Unspecified Heap	1946
181.0	NE	Unspecified Heap	1946
183.0	SW	Cuttings	1946
189.0	W	Police Station	1946
189.0	SW	Cuttings	1974
189.0	SW	Cuttings	1959
190.0	W	Police Station	1959
190.0	SW	Cuttings	1897
190.0	SW	Cuttings	1938
190.0	SW	Cuttings	1922
193.0	W	Police Station	1938
193.0	E	Electricity Power Station	1922
212.0	NE	Unspecified Commercial/Industrial	1988
212.0	NE	Unspecified Commercial/Industrial	1974
216.0	SW	Cuttings	1988
216.0	N	Railway Building	1922
230.0	NW	Fire Station	1974
232.0	NE	Unspecified Tank	1974
232.0	NE	Gas Holders	1988
247.0	N	Unspecified Tank	1988
247.0	E	Unspecified Commercial/Industrial	1938

1.3 Potentially Infilled Land

Records of Potentially Infilled Features from 1:10,000 scale mapping within 100m of the study site: 1

The following Infilled Land (1:10,000 scale Historical Data) records are not represented on Mapping:

Distance [m]	Direction	Use	Date
86.0	E	Unspecified Pit	1881



- The legend is organized into three columns:

 - Left Column:**
 - Site Outline (represented by a blue house-like shape)
 - Search Buffers (m) (represented by two horizontal lines, with 250m and 500m labels)
 - Middle Column:**
 - Recorded Pollution Incident (pink star)
 - Dangerous Substances (List 1) (black diamond)
 - Dangerous Substances (List 2) (yellow diamond)
 - Water Industry Referrals (black square with white diagonal line)
 - Licensed Discharge Consents (blue square)
 - Red List Discharge Consents (yellow square)
 - Right Column:**
 - Radioactive Consents (Lower Risk) (black inverted triangle)
 - Part A(1) Authorised Processes & Historic IPC Authorisations (black triangle)
 - Part A(2) and Part B Authorisations (green triangle)
 - Sites Determined as Contaminated Land (pink pentagon)
 - COMAH / NIHHS Sites (dashed black line)
 - Hazardous Substance Consents & Enforcements (orange circle with black dots)

2. Environmental Permits, Incidents and Registers

2.1 Industrial Sites Holding Licences and/or Authorisations

Searches of information provided by the Environment Agency and Local Authorities reveal the following information:

Records of Historic IPC Authorisations within 500m of the study site:

8

The following Part A Licences (IPC Processes) are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance [m]	Direction	NGR	Details	
49A	111.0	S	524200,212500	Operator: Roche Products Ltd Address: 40 Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3AY Process: Manufacture And Use Of Organic Chemicals	Permit Number: AJ9776 Original Permit Number: IPCAPP Date Approved: 14-2-1994 Effective Date: 14-2-1994 Status: Superseded By Variation
50A	111.0	S	524200,212500	Operator: Roche Products Ltd Address: 40 Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3AY Process: Manufacture And Use Of Organic Chemicals	Permit Number: BG4844 Original Permit Number: IPCMAJVAR Date Approved: 29-2-2000 Effective Date: 1-3-2000 Status: Revoked
51A	111.0	S	524200,212500	Operator: Roche Products Ltd Address: 40 Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3AY Process: Manufacture And Use Of Organic Chemicals	Permit Number: BC6241 Original Permit Number: IPCMINVAR Date Approved: 24-11-1998 Effective Date: 30-11-1998 Status: Superseded By Variation
52B	175.0	E	524470,213020	Operator: Catomance Technologies Ltd Address: 96 Bridge Road East, Welwyn Garden City, Hertfordshire, AL7 1JW Process: Pesticide Production	Permit Number: AK8210 Original Permit Number: IPCAIRAPP Date Approved: 15-3-1994 Effective Date: 15-3-1994 Status: Superseded By Variation
53B	175.0	E	524470,213020	Operator: Catomance Technologies Ltd Address: 96 Bridge Road East, Welwyn Garden City, Hertfordshire, AL7 1JW Process: Pesticide Production	Permit Number: BC7108 Original Permit Number: IPCMINVAR Date Approved: 24-11-1998 Effective Date: 30-11-1998 Status: Revoked
54C	227.0	E	524500,212900	Operator: British Lead Mills Ltd Address: Peartree Lane, Welwyn Garden City, Hertfordshire, AL7 3UB Process: Non-ferrous Metals	Permit Number: BD1601 Original Permit Number: IPCMINVAR Date Approved: 24-11-1998 Effective Date: 30-11-1998 Status: Superseded By Variation
55C	227.0	E	524500,212900	Operator: British Lead Mills Ltd Address: Peartree Lane, Welwyn Garden City, Hertfordshire, AL7 3UB Process: Non-ferrous Metals	Permit Number: AR7009 Original Permit Number: IPCAIRAPP Date Approved: 15-9-1995 Effective Date: 1-10-1995 Status: Superseded By Variation
56C	227.0	E	524500,212900	Operator: British Lead Mills Ltd Address: Peartree Lane, Welwyn Garden City, Hertfordshire, AL7 3UB Process: Non-ferrous Metals	Permit Number: AW7371 Original Permit Number: IPCMINVAR Date Approved: 31-7-2001 Effective Date: 3-8-2001 Status: Revoked - Now Ippc

Report Reference: 15857007

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Records of Part A(1) and IPPC Authorised Activities within 500m of the study site:

6

The following Part A(1) and IPPC Authorised Activities are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance [m]	Direction	NGR	Details
43C	227.0	E	524500,21290 0	Operator: British Lead Mills Ltd Installation Name: Wgc Lead Recovery Process Process: NON-FERROUS METALS; MELTING WITH CAPACITY >4T/D LEAD/CADMIUM OR 20T/D OTHERS Permit Number: SP3034UX Original Permit Number: BL8317IK EPR Reference: - Issue Date: 27/3/2008 Effective Date: 27/3/2008 Last date noted as effective: 2016-08-31 Status: Superseded
44C	227.0	E	524500,21290 0	Operator: British Lead Mills Ltd Installation Name: - Process: NON-FERROUS METALS; PRODUCING ETC LEAD & ALLOYS WITH RELEASE TO AIR Permit Number: BL8317 Original Permit Number: BL8317 EPR Reference: - Issue Date: 20/12/2002 Effective Date: 20/12/2002 Last date noted as effective: 2004-10-01 Status: Superseded By Pas
45C	227.0	E	524500,21290 0	Operator: British Lead Mills Ltd Installation Name: Wgc Lead Recovery Process Process: NON-FERROUS METALS; MELTING WITH CAPACITY >4T/D LEAD/CADMIUM OR 20T/D OTHERS Permit Number: PP3138CR Original Permit Number: BL8317IK EPR Reference: - Issue Date: 15/10/2012 Effective Date: 15/10/2012 Last date noted as effective: 2016-08-31 Status: Effective
46C	227.0	E	524500,21290 0	Operator: British Lead Mills Ltd Installation Name: Wgc Lead Recovery Process Process: NON-FERROUS METALS; PRODUCING ETC LEAD AND ALLOYS WITH RELEASE TO AIR Permit Number: BL8317IK Original Permit Number: BL8317IK EPR Reference: - Issue Date: 20/12/2002 Effective Date: 20/12/2002 Last date noted as effective: 2016-08-31 Status: Superseded
47C	227.0	E	524500,21290 0	Operator: British Lead Mills Ltd Installation Name: - Process: NON-FERROUS METALS; MELTING WITH CAPACITY >4T/D LEAD/CADMIUM OR 20T/D OTHERS Permit Number: BX4739 Original Permit Number: BL8317 EPR Reference: - Issue Date: - Effective Date: - Last date noted as effective: 2004-10-01 Status: Superseded By Pas
48C	227.0	E	524500,21290 0	Operator: British Lead Mills Ltd Installation Name: Wgc Lead Recovery Process Process: NON-FERROUS METALS; MELTING WITH CAPACITY >4T/D LEAD/CADMIUM OR 20T/D OTHERS Permit Number: BX4739IA Original Permit Number: BL8317IK EPR Reference: - Issue Date: 18/6/2004 Effective Date: 23/6/2004 Last date noted as effective: 2016-08-31 Status: Superseded

Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site:

0

Database searched and no data found.

Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site:

0

Database searched and no data found.

Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site:

1

Report Reference: 15857007

The following List 1 Dangerous Substance Inventory Site records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance [m]	Direction	NGR	Details
3	495.0	NE	524700,213300	Name: Catomance Limited Bridge Road East Welwyn G.c. Status: Not Active Receiving Water: -

Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site: 0

Database searched and no data found.

Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site: 6

The following Part A(2) and Part B Activities are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance [m]	Direction	NGR	Details
19	67.0	S	524132,212553	Address: Roche Products, 40 Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3AY Process: chemicals/acid process Status: Historical Permit Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
20	187.0	E	524440,212839	Address: British Lead Mills, Peartree Lane, Welwyn Garden City, Hertfordshire, AL7 3UB Process: lead process Status: Historical Permit Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
21	201.0	W	523824,212820	Address: Central Garage, Welwyn Garden City, Hertfordshire, AL8 6NE Process: Petrol Vapour Recovery Process Status: Historical Permit Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
22D	221.0	E	524512,212970	Address: Mark Tempest Autocentre, Unit, 1 Garden Court, Welwyn Garden City, Hertfordshire, AL7 1BH Process: Waste oil burners <0.45MW Status: New Legislation Applies Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
23D	225.0	E	524512,212951	Address: Eastbridge Service Station, Bridge Road East, Welwyn Garden City, Herts, AL7 1LE Process: Unloading of Petrol into Storage at Service Stations Status: Current Permit Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
24	339.0	NE	524486,213299	Address: Tesco, Cirrus Building, Shire Park, Welwyn, Garden City Herts, AL7 1AB Process: Unloading of Petrol into Storage at Service Stations Status: Current Permit Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified

Records of Category 3 or 4 Radioactive Substance Licences within 500m of the study site: 16

The following RAS Licence (3 or 4) records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance [m]	Direction	Address	Operator	Type	Permission Number	Dates	Status
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Report Reference: 15857007

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57A	111.0	S	Roche Products Ltd, 40 Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3AY	Roche Products Ltd	Disposal Of Radioactive Waste (was Rsa60 Section 6).	AE5209	Date of Approval: 9/1/1996 Effective from: 16/2/1996 Last date of update: 2015-01-01	Superseded By Variation
58A	111.0	S	Roche Products Ltd, 40 Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3AY	Roche Products Ltd	Disposal Of Radioactive Waste (was Rsa60 Section 6).	AE5209	Date of Approval: 20/4/2000 Effective from: 20/4/2000 Last date of update: 2015-01-01	Superseded By Variation
59A	111.0	S	Antisoma Research Ltd, Biopark Hertfordshire, Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3AX	Antisoma Research Ltd	Disposal Of Radioactive Waste (was Rsa60 Section 6).	CE3230	Date of Approval: 10/5/2010 Effective from: 10/5/2010 Last date of update: 2015-01-01	Revoked/cancelled
60A	111.0	S	Roche Products Ltd, 40 Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3AY	Roche Products Ltd	Keeping And Use Of Radioactive Materials (was Rsa60 Section 1).	AE5217	Date of Approval: 20/4/2000 Effective from: 20/4/2000 Last date of update: 2015-01-01	Superseded By Variation
61A	111.0	S	Roche Products Ltd, 40 Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3AY	Roche Products Ltd	Disposal Of Radioactive Waste (was Rsa60 Section 6).	AE5209	Date of Approval: 14/2/2002 Effective from: 14/3/2002 Last date of update: 2015-01-01	Superseded By Variation
62A	111.0	S	Roche Products Ltd, 40 Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3AY	Roche Products Ltd	Disposal Of Radioactive Waste (was Rsa60 Section 6).	AE5209	Date of Approval: 28/10/1998 Effective from: 25/11/1998 Last date of update: 2015-01-01	Superseded By Variation
63A	111.0	S	Roche Products Ltd, 40 Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3AY	Roche Products Ltd	Disposal Of Radioactive Waste (was Rsa60 Section 6).	AE5209	Date of Approval: 31/3/1991 Effective from: 31/3/1991 Last date of update: 2015-01-01	Superseded By Variation
64A	111.0	S	Roche Products Ltd, 40 Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3AY	Roche Products Ltd	Disposal Of Radioactive Waste (was Rsa60 Section 6).	AE5209	Date of Approval: 19/9/2002 Effective from: 17/10/2002 Last date of update: 2015-01-01	Revoked/cancelled

Report Reference: 15857007

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65A	111.0	S	Roche Products Ltd, 40 Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3AY	Roche Products Ltd	Disposal Of Radioactive Waste (was Rsa60 Section 6).	AE5209	Date of Approval:18/7/1994 Effective from:18/7/1994 Last date of update:2015-01-01	Superseded By Variation
66A	111.0	S	Roche Products Ltd, 40 Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3AY	Roche Products Ltd	Disposal Of Radioactive Waste (was Rsa60 Section 6).	AE5209	Date of Approval:29/6/1992 Effective from:29/6/1992 Last date of update:2015-01-01	Superseded By Variation
67A	111.0	S	Heptares Therapeutics Ltd, Biopark Hertfordshire, broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3AX	Heptares Therapeutics Ltd	Keeping And Use Of Radioactive Materials (was Rsa60 Section 1).	CD1568	Date of Approval:24/11/2008 Effective from:24/11/2008 Last date of update:2015-01-01	Superseded By Variation
68A	111.0	S	Roche Products Ltd, 40 Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3AY	Roche Products Ltd	Disposal Of Radioactive Waste (was Rsa60 Section 6).	AE5209	Date of Approval:26/3/1998 Effective from:23/4/1998 Last date of update:2015-01-01	Superseded By Variation
69A	111.0	S	Heptares Therapeutics Ltd, Biopark Hertfordshire, Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3AX	Heptares Therapeutics Ltd	Disposal Of Radioactive Waste (was Rsa60 Section 6).	CD1550	Date of Approval:24/11/2008 Effective from:22/12/2008 Last date of update:2015-01-01	Revoked/ cancelled
70A	111.0	S	Roche Products Ltd, 40 Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3AY	Roche Products Ltd	Keeping And Use Of Radioactive Materials (was Rsa60 Section 1).	AE5217	Date of Approval:19/9/2002 Effective from:19/9/2002 Last date of update:2015-01-01	Revoked/ cancelled
71A	111.0	S	Heptares Therapeutics Ltd, Biopark Hertfordshire, broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3AX	Heptares Therapeutics Ltd	Keeping And Use Of Radioactive Materials (was Rsa60 Section 1).	CD1568	Date of Approval:3/6/2009 Effective from:3/6/2009 Last date of update:2015-01-01	Revoked/ cancelled
72A	111.0	S	Roche Products Ltd, 40 Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3AY	Roche Products Ltd	Keeping And Use Of Radioactive Materials (was Rsa60 Section 1).	AE5217	Date of Approval:14/2/2002 Effective from:14/2/2002 Last date of update:2015-01-01	Superseded By Variation

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If you would like any further assistance regarding this report then please contact
TM Group on (T) 0844 249 9202, email: helpdesk@tmgroup.co.uk

Records of Licensed Discharge Consents within 500m of the study site:

1

The following Licensed Discharge Consents records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance [m]	Direction	NGR	Details
4	346.0	N	524200,213400	<p>Address: RANK XEROX LTD, BESSEMER ROAD, WELW, RANK XEROX LTD, BESSEMER ROAD, W, ELWYN GARDEN CITY, HERTFORDSHIRE, -, - Effluent Type: MISCELLANEOUS DISCHARGES - MINE/GROUNDWATER AS RAISED Permit Number: CNTW.1270 Permit Version: 1</p> <p>Receiving Water: CHALK Status: CONSENT EXPIRED - TIME LIMIT Issue date: 30-Oct-1991 Effective Date: 30-Oct-1991 Revocation Date: 31-Mar-1996</p>

Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site:

1

The following records are represented as points on the Environmental Permits, Incidents and Registers Map.

ID	Distance [m]	Direction	Application Reference Number	Application Status	Application Date	Address	Details	Details of Enforcement Action
	256.0	NE	N6/2000/0752 /HS	Approved	24/05/2000	Transco Plc, Wlewyn Garden City Holder Station, Tewin Road, Welwyn Garden City, Hertfordshire, AL7 1BD	Determination of application for continuation of hazardous substances consent	Enforcement: No Enforcements Notified Date of Enforcement Notified Comment: No Enforcement Notified

2.2 Dangerous or Hazardous Sites

Records of COMAH & NIHHS sites within 500m of the study site:

1

The following COMAH & NIHHS Authorisation records provided by the Health and Safety Executive are represented as polygons or buffered points on the Environmental Permits, Incidents and Registers Map:

ID	Distance [m]	Direction	Company	Address	Operational Status	Tier
41	220.0	NE	British Gas	British Gas, Welwyn Garden City Holder Station, Tewin Road, Welwyn Garden City	Historical NIHHS Site	-

2.3 Environment Agency Recorded Pollution Incidents

Records of National Incidents Recording System, List 2 within 250m of the study site:

2

The following NIRS List 2 records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance [m]	Direction	NGR	Details
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1	184.0	E	524458,212909	Incident Date: 23-Oct-2002 Incident Identification: 116311 Pollutant: Inorganic Chemicals/Products Pollutant Description: Heavy Metals	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
2	239.0	E	524527,213071	Incident Date: 25-Aug-2002 Incident Identification: 102980 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)

Records of National Incidents Recording System, List 1 within 250m of the study site: **0**

Database searched and no data found.

2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990¹

How many records of sites determined as contaminated land under Section 78R of the Environmental Protection Act 1990 are there within 500m of the study site? **0**

Database searched and no data found.

¹Further information on sites that have been determined under the Contaminated Land Regime is maintained by Local Authorities under Section 78R of the Environmental Protection Act 1990. Information should be available on both sites currently determined as Contaminated Land and Special Sites.

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3. Landfill and Other Waste Sites

3.1 Landfill Sites

Records from Environment Agency landfill data within 1000m of the study site:

0

Database searched and no data found.

Records of Environment Agency historic landfill sites within 1500m of the study site:

4

The following landfill records are represented as either points or polygons on the Landfill and Other Waste Sites map:

ID	Distance [m]	Direction	NGR	Details
Not shown	992.0	S	523700,211400	Site Address: Chequersfield, Welwyn Garden City, Hertfordshire Waste Licence: - Site Reference: 0322, Ex/0001 Waste Type: - Environmental Permitting Regulations (Waste) Reference: - Licence Issue: Licence Surrendered: Licence Hold Address: - Operator: - First Recorded: 31-Dec-1965 Last Recorded: -
Not shown	1234.0	SW	523400,211400	Site Address: Gosling Stadium, Welwyn Garden City, Hertfordshire Waste Licence: Yes Site Reference: 82/145 Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 29-Oct-1982 Licence Surrendered: 31-Oct-1986 Licence Hold Address: - Operator: - First Recorded: 29-Oct-1982 Last Recorded: 31-Oct-1986
Not shown	1275.0	SW	523300,211400	Site Address: Gosling Stadium, Welwyn Garden City, Hertfordshire Waste Licence: Yes Site Reference: 85/177 Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 22-Jan-1985 Licence Surrendered: Licence Hold Address: - Operator: - First Recorded: 22-Jan-1985 Last Recorded: 31-Dec-1986
Not shown	1312.0	S	523600,211200	Site Address: Chequersfield, Welwyn Garden City, Hertfordshire Waste Licence: - Site Reference: 3151 Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: - Licence Issue: Licence Surrendered: Licence Hold Address: - Operator: - First Recorded: 01-Jun-1993 Last Recorded: -

Records of BGS/DoE non-operational landfill sites within 1500m of the study site:

0

Database searched and no data found.

Records of Landfills from Local Authority and Historical Mapping Records within 1500m of the study site: 0

Database searched and no data found.

3.2 Other Waste Sites

Records of operational and historic waste treatment, transfer or disposal sites within 500m of the study site: 2

The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

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